



World Leader in Rating Technology

## 2018 ORC Club Certificate

### Rating Office

Portsmouth Olympic  
Harbour  
53 Yonge Street  
Kingston, Ontario  
Canada K7M 6G4



### Certificate

Number **BC8033**  
Issued On **5/15/18**  
ORC Ref **CAN00000623**  
VPP Ver. **2018 1.00**  
Valid until **12/31/18**

### Crew Weight

Default 1,078kg  
Maximum **1,078kg**  
Minimum\* **809kg**  
*\*when applied by the NoR and SI*  
Non Manual Pwr **No**

### Special Scoring

|              | ToD          | ToT           |
|--------------|--------------|---------------|
| Double H.GPH | <b>599.0</b> | <b>1.0017</b> |
| Double H.OSN | <b>579.5</b> | <b>1.0354</b> |
| Non Spin GPH | <b>638.4</b> | <b>0.9398</b> |
| Non Spin OSN | <b>616.3</b> | <b>0.9736</b> |

### Sails Limitations

Headsails **1** Spinnakers **4**

### Spinnaker configuration

Symmetric: **No**  
Asymmetric: **Yes 148.14**  
Flying H/S: **No**  
Spin. Pole: **No**

### Class Division Length

**CDL = 11.335**

### Stability (Estimated)

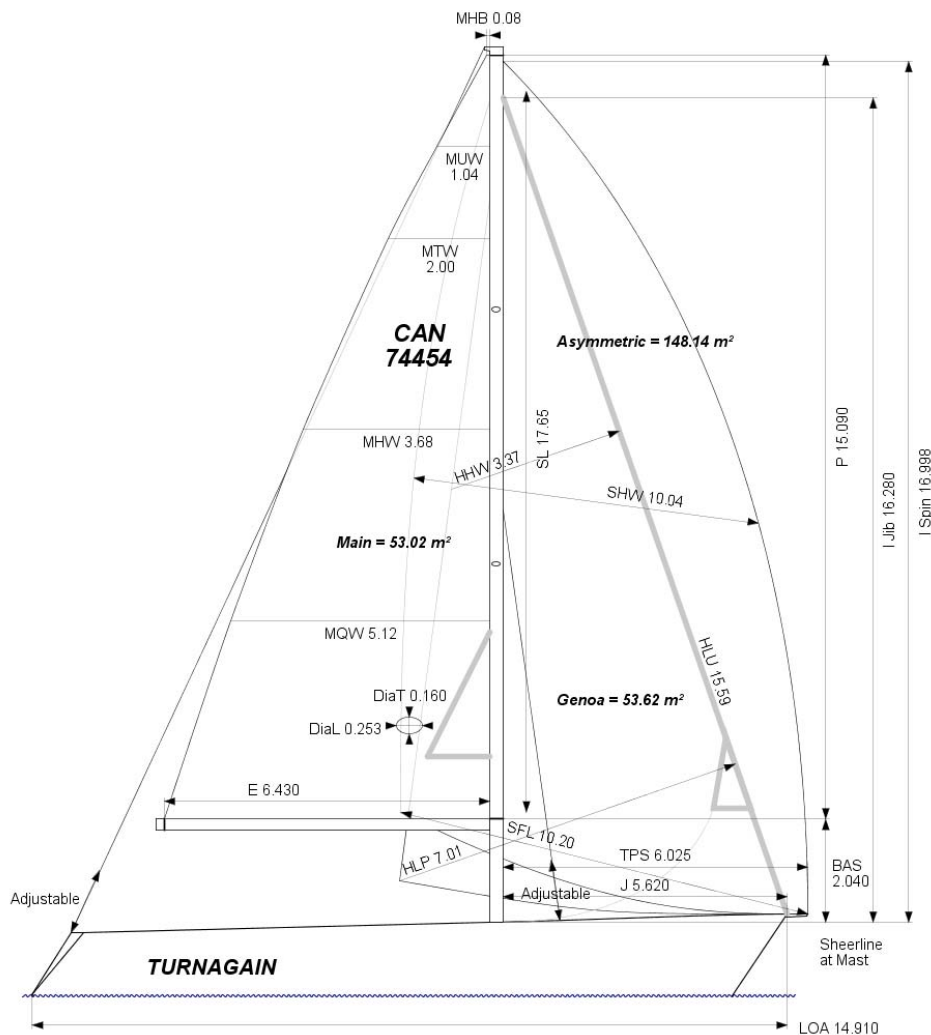
Limit Positive Stab.: **107.2°**  
Stability Index: **113.2**

### Owner

Travis McGregor  
3086 Spencer Place  
West Vancouver, BC  
Canada V7V3C9

I certify that I understand my  
responsibilities under ORC Rules and  
Regulations

Signature



| BOAT  |                                | GPH                                     | HULL                            |                           |               |               |
|---|--------------------------------|---|---------------------------------|---------------------------|---------------|---------------|
| Name <b>Turnagain</b><br>Sail Nr <b>CAN 74454</b> |                                | <b>600.2</b>                            | Data File <b>Turnagain-</b>     | LOA <b>14.910m</b>        |               |               |
|   |                                |   | Offset File <b>BENETEAU49CL</b> | MB <b>4.476m</b>          |               |               |
|   |                                |   | Displacement <b>12,453kg</b>    | Draft <b>2.055m</b>       |               |               |
| <b>CLASS</b>                                      |                                |   |                                 |                           |               |               |
| Class <b>Oceanis 50</b>                           |                                | IMS Division <b>Cruiser/Racer</b>       |                                 |                           |               |               |
| Designer <b>Berret-Racoupeau</b>                  |                                | Dynamic All. <b>0.362%</b>              |                                 |                           |               |               |
| Builder <b>Beneteau</b>                           |                                | Fwd Accom. <b>Yes</b>                   |                                 |                           |               |               |
| Series <b>01/2005</b>                             |                                | Construction <b>Solid</b>               |                                 |                           |               |               |
| Age Date <b>01/2011</b>                           |                                | Fiber Rigging <b>No</b>                 |                                 |                           |               |               |
| Age Allowance <b>0.422%</b>                       |                                | Aramid Core <b>No</b>                   |                                 |                           |               |               |
|   |                                | Crew Arm Ex <b>No</b>                   |                                 |                           |               |               |
|   |                                | Carbon Rudder <b>No</b>                 |                                 |                           |               |               |
|   |                                | Light Stanchions <b>No</b>              |                                 |                           |               |               |
|   |                                | IMSL <b>13.608m</b>                     |                                 |                           |               |               |
|   |                                | VCGD <b>-0.097m</b>                     |                                 |                           |               |               |
|   |                                | Sink <b>35.90kg/mm</b>                  |                                 |                           |               |               |
|   |                                | RL <b>9.061m</b>                        |                                 |                           |               |               |
|   |                                | VCGM <b>0.217m</b>                      |                                 |                           |               |               |
|   |                                | WS <b>45.58m²</b>                       |                                 |                           |               |               |
|   |                                | LSM0 <b>13.693m</b>                     |                                 |                           |               |               |
|   |                                | Displacement/Length ratio <b>4.8504</b> |                                 |                           |               |               |
| <b>COMMENTS</b>                                   |                                | Water Ballast <b>0</b>                  |                                 |                           |               |               |
|   |                                | Trim Tab <b>No</b>                      |                                 |                           |               |               |
|   |                                | BLR Index <b>0.0000</b>                 |                                 |                           |               |               |
| <b>PROPELLER</b>                                  |                                | <b>CENTERBOARD</b>                      |                                 |                           |               |               |
| Installation <b>Shaft non exposed</b>             | PRD <b>0.558</b>               | <b>N/A</b>                              |                                 |                           |               |               |
| Type <b>Feathering 3 blades</b>                   | PBW <b>0.205</b>               |   |                                 |                           |               |               |
|   | PIPA <b>0.0017</b>             |   |                                 |                           |               |               |
| <b>SCORING OPTIONS</b>                            |                                |   |                                 |                           |               |               |
|   | <b>COASTAL / LONG DISTANCE</b> |   |                                 | <b>WINDWARD / LEEWARD</b> |               |               |
| Time on Distance                                  | <b>580.2</b>                   |   |                                 | <b>657.7</b>              |               |               |
| Time on Time                                      | <b>1.0342</b>                  |   |                                 | <b>1.0263</b>             |               |               |
| Triple Number                                     | Low                            | Medium                                  | High                            | Low                       | Medium        | High          |
| Time on Distance                                  | <b>720.5</b>                   | <b>523.7</b>                            | <b>449.7</b>                    | <b>942.7</b>              | <b>663.8</b>  | <b>551.8</b>  |
| Time on Time                                      | <b>0.9369</b>                  | <b>1.2890</b>                           | <b>1.5009</b>                   | <b>0.7160</b>             | <b>1.0169</b> | <b>1.2232</b> |

|                                |                                 |
|--------------------------------|---------------------------------|
| <b>BOAT</b>                    |                                 |
| Name <b>Turnagain</b>          | Sail Nr <b>CAN 74454</b>        |
| File <b>Turnagain-CAN74454</b> | Data in <b>meters/kilograms</b> |

|                                |                                       |
|--------------------------------|---------------------------------------|
| <b>RIG</b>                     |                                       |
| Forestay Tension <b>Aft</b>    | Spreaders <b>2</b>                    |
| Inner Stay <b>Adjustable</b>   | Runners <b>0</b>                      |
| Carbon Mast <b>No</b>          | Jumper Struts <b>None</b>             |
| Taper Hollows <b>No</b>        | Jib Furler <b>Yes</b>                 |
| Fiber Rigging <b>No</b>        | Main Furler <b>Yes</b>                |
| Lenticular Rigging <b>No</b>   | Without Backstay <b>No</b>            |
| Articulated Bowsprit <b>No</b> |                                       |
| P <b>15.090</b>                | E <b>6.430</b> MDT1 <b>0.160</b> MW   |
| IG <b>16.280</b>               | J <b>5.620</b> MDL1 <b>0.253</b> GO   |
| ISP <b>16.998</b>              | SFJ MDT2 <b>BD</b>                    |
| BAS <b>2.040</b>               | SPL MDL2 <b>MWT</b>                   |
| FSP <b>-3.000</b>              | TPS <b>6.025</b> TL <b>-3.000</b> MCG |

|  |                                     |
|--|-------------------------------------|
| <b>INCLINING TEST AND FREEBOARDS</b>                           |                                     |
| Inclining Test <b>Enter RM directly</b>                        |                                     |
| Flotation date <b>03/01/2016</b>                               | SG <b>1.0211</b>                    |
|  | RMCE <b>386.6</b>                   |
| FFM <b>1.581</b>   | FF <b>1.643</b> SFFP <b>0.740</b>   |
| FAM <b>1.246</b>   | FA <b>1.223</b> SAFFP <b>13.893</b> |
| LCF from stem on CL / on sheer <b>8.772 / 9.052</b>            |                                     |
| Maximum beam station from stem <b>9.203</b>                    |                                     |
| RM Measured <b>386.6kg-m</b>                                   |                                     |
| RM Default <b>355.1kg-m</b>                                    |                                     |
| Limit of positive stability / Stab.Index <b>107.2° / 113.2</b> |                                     |
| Freeboard at mast at 5.620 <b>1.443</b>                        |                                     |



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## 2018 Measurements Datasheet

|                             |  |
|-----------------------------|--|
| <b>MIZZEN RIG AND SAILS</b> |  |
| N/A                         |  |

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| <b>PROPELLER</b>                      |                                   |
| Installation <b>Shaft non exposed</b> | PRD <b>0.558</b>                  |
| Type <b>Feathering 3 blades</b>       | PBW <b>0.205</b>                  |
| Twin Screw <b>No</b>                  | PIPA <b>0.0017</b>                |
| PSA <b>20.000</b>                     | PHD <b>0.075</b> ESL <b>0.230</b> |
| PSD <b>0.032</b>                      | PHL <b>0.150</b>                  |

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|                 |  |
|-----------------|--|
| <b>COMMENTS</b> |  |
|                 |  |

|                        |  |
|------------------------|--|
| <b>MOVABLE BALLAST</b> |  |
| N/A                    |  |

|                    |  |
|--------------------|--|
| <b>CENTERBOARD</b> |  |
| N/A                |  |

| <b>SAILS INVENTORY</b>           |       |       |       |       |       |        |          |           |             |             |          |          |           |             |          |         |
|----------------------------------|-------|-------|-------|-------|-------|--------|----------|-----------|-------------|-------------|----------|----------|-----------|-------------|----------|---------|
| <b>MAINSAIL (1)</b>              |       |       |       |       |       |        |          |           |             |             |          |          |           |             |          |         |
| Id                               | MHB   | MUW   | MTW   | MHW   | MQW   | Area   | Measurer | Meas.Date | Manufacture | Material    | Comment  |          |           |             |          |         |
| 1                                | 0.075 | 1.04  | 2.00  | 3.68  | 5.12  | 53.02  |          |           |             |             |          |          |           |             |          |         |
| <b>HEADSAILS (1)</b>             |       |       |       |       |       |        |          |           |             |             |          |          |           |             |          |         |
| Id                               | HHB   | HUW   | HTW   | HHW   | HQW   | HLP    | HLU      | Ovrlp     | Area        | Btn         | Fly      | Measurer | Meas.Date | Manufacture | Material | Comment |
| 1                                | 0.08  | 0.88  | 1.67  | 3.37  | 5.14  | 7.01   | 15.59    | 125%      | 53.62       |             |          |          |           |             |          |         |
| <b>SYMMETRIC SPINNAKERS (0)</b>  |       |       |       |       |       |        |          |           |             |             |          |          |           |             |          |         |
| Id                               | SLU   | SLE   | SL    | SHW   | SFL   | Area   | Measurer | Meas.Date | Manufacture | Material    | Comment  |          |           |             |          |         |
| <b>ASYMMETRIC SPINNAKERS (1)</b> |       |       |       |       |       |        |          |           |             |             |          |          |           |             |          |         |
| Id                               | SLU   | SLE   | SL    | SHW   | SFL   | Area   | Kind     | Measurer  | Meas.Date   | Manufacture | Material | Comment  |           |             |          |         |
| 1                                | 19.30 | 16.00 | 17.65 | 10.04 | 10.20 | 148.14 | asym     |           |             |             |          |          |           |             |          |         |

| <b>MEASUREMENT INVENTORY</b>      |        |        |             |                 |
|-----------------------------------|--------|--------|-------------|-----------------|
| Measurer <b>Barron/Ballantyne</b> |        |        |             |                 |
| Date <b>26/04/2014</b>            |        |        |             |                 |
| Comment                           |        |        |             |                 |
| Id                                | Item   | Weight | Distance    | VCG Description |
| 4                                 | Anchor | 24.9   | 0.30        | 4.56            |
| 2                                 | Anchor | 54.4   | 6.92        | 0.00 With chain |
| 300                               | Chain  | 244.9  | 1.00        | 1.00            |
| Id                                | Item   | Maker  | Model       |                 |
| 1                                 | Engine | Yanmar | 4jh4-tce    |                 |
| Id                                | Item   | Weight | Description |                 |

| <b>MEASUREMENT INVENTORY</b> |         |          |           |                 |       |                       |
|------------------------------|---------|----------|-----------|-----------------|-------|-----------------------|
| Id                           | Item    | Tank Use | Tank Type | Capcty          | Dist. | VCG Condn Description |
| 2                            | Tank    | diesel   |           | 240.0           | 1.20  |                       |
| 1                            | Tank    | water    |           | 615.0           | 1.20  |                       |
| Id                           | Item    | Weight   | Distance  | VCG Description |       |                       |
| Grp                          | Battery | 29.0     | 8.32      | 0.00            |       |                       |
| 4x4                          | Battery | 180.0    | 8.20      | 0.00            |       |                       |
| Misc                         |         |          |           |                 |       |                       |



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# 2018

## ORC Club Certificate Appendix

| <b>BOAT</b>        |                  |
|--------------------|------------------|
| Name               | <b>Turnagain</b> |
| Certificate Number | <b>BC8033</b>    |
| Sail Nr            | <b>CAN 74454</b> |
| Issued On          | <b>5/15/18</b>   |

| <b>TIME ALLOWANCES</b>  |               |              |              |              |              |              |              |
|-------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Wind Velocity           | 6 kt          | 8 kt         | 10 kt        | 12 kt        | 14 kt        | 16 kt        | 20 kt        |
| Beat VMG                | <b>1114.8</b> | <b>897.9</b> | <b>779.2</b> | <b>701.5</b> | <b>649.5</b> | <b>626.6</b> | <b>611.9</b> |
| 52°                     | <b>711.6</b>  | <b>583.6</b> | <b>511.3</b> | <b>465.3</b> | <b>442.6</b> | <b>432.3</b> | <b>425.9</b> |
| 60°                     | <b>662.8</b>  | <b>549.9</b> | <b>483.8</b> | <b>447.5</b> | <b>429.8</b> | <b>420.1</b> | <b>412.5</b> |
| 75°                     | <b>626.5</b>  | <b>524.0</b> | <b>464.3</b> | <b>435.3</b> | <b>419.2</b> | <b>407.8</b> | <b>391.8</b> |
| 90°                     | <b>631.9</b>  | <b>514.4</b> | <b>449.9</b> | <b>422.5</b> | <b>409.5</b> | <b>402.6</b> | <b>378.9</b> |
| 110°                    | <b>619.7</b>  | <b>503.2</b> | <b>441.8</b> | <b>415.1</b> | <b>396.3</b> | <b>378.6</b> | <b>355.6</b> |
| 120°                    | <b>637.6</b>  | <b>516.9</b> | <b>450.2</b> | <b>419.9</b> | <b>399.8</b> | <b>379.5</b> | <b>343.4</b> |
| 135°                    | <b>719.4</b>  | <b>568.9</b> | <b>484.8</b> | <b>438.5</b> | <b>414.9</b> | <b>396.1</b> | <b>356.8</b> |
| 150°                    | <b>855.2</b>  | <b>667.4</b> | <b>557.8</b> | <b>488.8</b> | <b>449.5</b> | <b>428.7</b> | <b>398.8</b> |
| Run VMG                 | <b>987.4</b>  | <b>770.6</b> | <b>644.1</b> | <b>564.4</b> | <b>519.0</b> | <b>493.2</b> | <b>432.3</b> |
| <b>Selected Courses</b> |               |              |              |              |              |              |              |
| Windward / Leeward      | <b>1051.1</b> | <b>834.2</b> | <b>711.7</b> | <b>632.9</b> | <b>584.3</b> | <b>559.9</b> | <b>522.1</b> |
| Circular Random         | <b>855.4</b>  | <b>678.5</b> | <b>580.6</b> | <b>521.9</b> | <b>485.1</b> | <b>460.9</b> | <b>430.5</b> |
| Coastal / Long Distance | <b>1044.8</b> | <b>779.8</b> | <b>632.8</b> | <b>540.8</b> | <b>491.1</b> | <b>459.2</b> | <b>409.0</b> |
| Non Spinnaker           | <b>925.0</b>  | <b>727.9</b> | <b>617.0</b> | <b>549.0</b> | <b>505.4</b> | <b>476.5</b> | <b>441.9</b> |

| <b>Velocity Prediction in Knots for True Wind Speeds</b> |               |               |               |               |               |               |               |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Wind Velocity  | 6 kt          | 8 kt          | 10 kt         | 12 kt         | 14 kt         | 16 kt         | 20 kt         |
| Beat Angles  | <b>45.2°</b>  | <b>43.8°</b>  | <b>42.9°</b>  | <b>42.5°</b>  | <b>41.8°</b>  | <b>40.8°</b>  | <b>40.0°</b>  |
| Beat VMG   | <b>3.23</b>   | <b>4.01</b>   | <b>4.62</b>   | <b>5.13</b>   | <b>5.54</b>   | <b>5.75</b>   | <b>5.88</b>   |
| 52°  | <b>5.06</b>   | <b>6.17</b>   | <b>7.04</b>   | <b>7.74</b>   | <b>8.13</b>   | <b>8.33</b>   | <b>8.45</b>   |
| 60°  | <b>5.43</b>   | <b>6.55</b>   | <b>7.44</b>   | <b>8.05</b>   | <b>8.38</b>   | <b>8.57</b>   | <b>8.73</b>   |
| 75°  | <b>5.75</b>   | <b>6.87</b>   | <b>7.75</b>   | <b>8.27</b>   | <b>8.59</b>   | <b>8.83</b>   | <b>9.19</b>   |
| 90°  | <b>5.70</b>   | <b>7.00</b>   | <b>8.00</b>   | <b>8.52</b>   | <b>8.79</b>   | <b>8.94</b>   | <b>9.50</b>   |
| 110°   | <b>5.81</b>   | <b>7.15</b>   | <b>8.15</b>   | <b>8.67</b>   | <b>9.08</b>   | <b>9.51</b>   | <b>10.12</b>  |
| 120°   | <b>5.65</b>   | <b>6.96</b>   | <b>8.00</b>   | <b>8.57</b>   | <b>9.00</b>   | <b>9.49</b>   | <b>10.48</b>  |
| 135°   | <b>5.00</b>   | <b>6.33</b>   | <b>7.43</b>   | <b>8.21</b>   | <b>8.68</b>   | <b>9.09</b>   | <b>10.09</b>  |
| 150°   | <b>4.21</b>   | <b>5.39</b>   | <b>6.45</b>   | <b>7.37</b>   | <b>8.01</b>   | <b>8.40</b>   | <b>9.03</b>   |
| Run VMG  | <b>3.65</b>   | <b>4.67</b>   | <b>5.59</b>   | <b>6.38</b>   | <b>6.94</b>   | <b>7.30</b>   | <b>8.33</b>   |
| Gybe Angles  | <b>143.7°</b> | <b>147.1°</b> | <b>147.1°</b> | <b>147.8°</b> | <b>149.0°</b> | <b>151.4°</b> | <b>177.2°</b> |