

<b>BOAT</b>
Name <b>HAWK</b>
Sail Nr <b>PER 4698</b>

<b>GPH</b>
<b>532.6</b>

<b>HULL</b>
Length Overall <b>14.270 m</b>
Maximum Beam <b>4.060 m</b>
Displacement <b>8,128 kg</b>
Draft <b>3.040 m</b>
IMS Reg. Division <b>Cruiser/Racer</b>
Dynamic Allowance <b>0.000%</b>
Fwd Accommodation <b>Yes</b>
Hull Construction <b>Cored</b>
Carbon Rudder <b>Yes</b>
Crew Arm Extension
IMS L <b>12.636</b> VCGD <b>-0.063</b> VCGM <b>-0.178</b>
Sink <b>27.55 kg/mm</b> Wetted Area <b>37.16 m<sup>2</sup></b>



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**2011**  
ORC International  
Certificate

<b>GENERAL</b>
Class <b>SYDNEY 46</b>
Designer <b>MURRY/BURNS/DOVELL</b>
Builder <b>SYDNEY YACHTS, AUS</b>
Series <b>06/1998</b>
Age <b>06/1998</b>
Age Allowance <b>0.845%</b>
Offset File <b>hawk2011.off - 10/07/2011 10:21:00</b>
Measurement by <b>G Liza / L Yarlequ - 17/06/2010</b>

<b>SCORING OPTIONS</b>						
	<b>OFFSHORE</b>			<b>INSHORE</b>		
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	<b>532.6</b>			<b>588.4</b>		
Time On Time	<b>1.1266</b>			<b>1.1472</b>		
Performance Line	PLT	PLD		PLT	PLD	
	<b>0.975</b>	<b>94.8</b>		<b>1.033</b>	<b>240.4</b>	
Triple Number	Low	Medium	High	Low	Medium	High
	<b>1.1015</b>	<b>1.4336</b>	<b>1.6157</b>	<b>0.8395</b>	<b>1.1405</b>	<b>1.3148</b>

**Rating Office**

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Asociacion de Veleros  
Oceanicos del Peru



<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>897.1</b>	<b>724.3</b>	<b>650.7</b>	<b>612.8</b>	<b>591.4</b>	<b>587.4</b>	<b>589.9</b>
52°	<b>577.1</b>	<b>479.8</b>	<b>445.4</b>	<b>428.9</b>	<b>419.0</b>	<b>415.0</b>	<b>414.7</b>
60°	<b>536.6</b>	<b>458.5</b>	<b>427.5</b>	<b>413.3</b>	<b>404.4</b>	<b>399.0</b>	<b>396.9</b>
75°	<b>509.1</b>	<b>445.2</b>	<b>410.1</b>	<b>393.7</b>	<b>384.5</b>	<b>378.1</b>	<b>371.6</b>
90°	<b>513.3</b>	<b>446.2</b>	<b>415.3</b>	<b>389.3</b>	<b>370.2</b>	<b>361.1</b>	<b>350.0</b>
110°	<b>535.4</b>	<b>452.0</b>	<b>406.0</b>	<b>381.8</b>	<b>365.1</b>	<b>354.0</b>	<b>337.0</b>
120°	<b>563.7</b>	<b>461.2</b>	<b>410.8</b>	<b>380.7</b>	<b>357.0</b>	<b>345.0</b>	<b>321.8</b>
135°	<b>633.8</b>	<b>507.4</b>	<b>446.8</b>	<b>411.4</b>	<b>384.5</b>	<b>359.7</b>	<b>302.6</b>
150°	<b>772.6</b>	<b>608.5</b>	<b>513.2</b>	<b>461.8</b>	<b>425.7</b>	<b>399.7</b>	<b>349.6</b>
Run VMG	<b>892.1</b>	<b>702.7</b>	<b>592.6</b>	<b>531.9</b>	<b>484.0</b>	<b>447.5</b>	<b>396.4</b>

<b>Certificate</b>
Number <b>PER108</b>
ORC Ref <b>PER00000187</b>
Issued On <b>25/08/2011</b>
VPP Ver. <b>2011 1.02</b>
Valid until <b>31/03/2012</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>910.6</b>	<b>726.7</b>	<b>631.9</b>	<b>578.9</b>	<b>544.7</b>	<b>523.3</b>	<b>496.6</b>
Circular Random	<b>736.8</b>	<b>593.3</b>	<b>516.5</b>	<b>471.9</b>	<b>444.4</b>	<b>426.3</b>	<b>402.7</b>
Ocean for PCS	<b>787.1</b>	<b>620.2</b>	<b>527.4</b>	<b>470.5</b>	<b>432.5</b>	<b>404.9</b>	<b>363.8</b>
Non Spinnaker	<b>792.8</b>	<b>632.8</b>	<b>545.4</b>	<b>493.4</b>	<b>460.8</b>	<b>439.2</b>	<b>412.7</b>

<b>Crew Weight</b>
Declared <b>931 kg</b>
Default* <b>931 kg</b>
Non Manual Power <b>No</b>

<b>Special Scoring</b>		
	ToD	ToT
Double Handed	<b>537.3</b>	<b>1.1166</b>
Non Spinnaker	<b>563.1</b>	<b>1.0655</b>
N/S Perf. Line	<b>61.0</b>	<b>0.861</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>44.3°</b>	<b>43.2°</b>	<b>39.5°</b>	<b>37.7°</b>	<b>37.1°</b>	<b>36.9°</b>	<b>37.3°</b>
Beat VMG	<b>4.01</b>	<b>4.97</b>	<b>5.53</b>	<b>5.87</b>	<b>6.09</b>	<b>6.13</b>	<b>6.10</b>
52°	<b>6.24</b>	<b>7.50</b>	<b>8.08</b>	<b>8.39</b>	<b>8.59</b>	<b>8.67</b>	<b>8.68</b>
60°	<b>6.71</b>	<b>7.85</b>	<b>8.42</b>	<b>8.71</b>	<b>8.90</b>	<b>9.02</b>	<b>9.07</b>
75°	<b>7.07</b>	<b>8.09</b>	<b>8.78</b>	<b>9.15</b>	<b>9.36</b>	<b>9.52</b>	<b>9.69</b>
90°	<b>7.01</b>	<b>8.07</b>	<b>8.67</b>	<b>9.25</b>	<b>9.72</b>	<b>9.97</b>	<b>10.28</b>
110°	<b>6.72</b>	<b>7.97</b>	<b>8.87</b>	<b>9.43</b>	<b>9.86</b>	<b>10.17</b>	<b>10.68</b>
120°	<b>6.39</b>	<b>7.81</b>	<b>8.76</b>	<b>9.46</b>	<b>10.08</b>	<b>10.43</b>	<b>11.19</b>
135°	<b>5.68</b>	<b>7.10</b>	<b>8.06</b>	<b>8.75</b>	<b>9.36</b>	<b>10.01</b>	<b>11.90</b>
150°	<b>4.66</b>	<b>5.92</b>	<b>7.02</b>	<b>7.80</b>	<b>8.46</b>	<b>9.01</b>	<b>10.30</b>
Run VMG	<b>4.04</b>	<b>5.12</b>	<b>6.08</b>	<b>6.77</b>	<b>7.44</b>	<b>8.05</b>	<b>9.08</b>
Gybe Angles	<b>136.0°</b>	<b>141.4°</b>	<b>146.6°</b>	<b>151.9°</b>	<b>160.2°</b>	<b>167.0°</b>	<b>171.5°</b>

<b>Sails Limitations</b>		
Genoa	Jibs	Spinnakers
<b>4</b>	<b>3</b>	<b>4</b>
Spinnaker configuration <b>Asymmetric-CL</b>		

<b>Storm Sails Areas</b>	
Heavy Weather Jib	<b>50.14</b>
Storm Jib (JL=12.53)	<b>18.57</b>
Storm Triesail	<b>18.25</b>

**Owner**

Javier Arribas  
Pedro Venturo 431, Aurora  
Miraflores, Lima 18  
Peru

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

Signature

<b>BOAT</b>	
Name <b>HAWK</b> File <b>PER4698.dxt</b>	Sail Nr <b>PER 4698</b> Data in <b>meters/kilograms</b>

<b>RIG</b>	
Forestay Tension <b>Aft</b>	Spreaders <b>3</b>
Inner Forestay <b>None Fitted</b>	Runners <b>2</b>
Carbon Mast <b>Yes</b>	Jumper Struts <b>None</b>
Taper Hollows <b>No</b>	Jib Furler <b>No</b>
Fiber Rigging <b>No</b>	Main Furler <b>No</b>
Lenticular Rigging <b>No</b>	Without Backstay <b>No</b>
Articulated Bowsprit <b>No</b>	
P <b>17.043</b>	E <b>6.120</b> MDT1 <b>0.126</b> TL <b>0.715</b>
IG <b>19.188</b>	J <b>5.520</b> MDL1 <b>0.249</b> MWT <b>243.00</b>
ISP <b>19.125</b>	SFJ <b>0.000</b> MDT2 <b>0.107</b> MCG <b>6.125</b>
SPS <b>2.960</b>	SPL <b>0.190</b> CPW <b>2.655</b>
BAS <b>1.960</b>	TPS <b>7.138</b> MW <b>0.211</b> BD <b>0.275</b>
BAL <b>0.200</b>	FSP <b>0.086</b> GO <b>0.235</b> BWT <b>40.00</b>

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

<b>COMMENTS</b>	
Modified Keel and bowsprit 07/11 new OFFSET	

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>23/08/2011</b>		SG <b>1.0260</b>
FFM <b>1.546</b>	FF <b>1.546</b>	SFFP <b>0.314</b>
FAM <b>1.090</b>	FA <b>1.090</b>	SAFP <b>13.892</b>
W1 <b>117.50</b>	PD1 <b>499.0</b>	WD <b>14.515</b>
W2 <b>117.50</b>	PD2 <b>499.0</b>	GSA <b>1.0</b>
W3 <b>117.50</b>	PD3 <b>499.0</b>	RSA <b>1.0</b>
W4 <b>117.50</b>	PD4 <b>499.0</b>	PLM <b>9000.0</b>
Maximum beam station from stem		<b>8.499</b>
RM Measured / Default		<b>269.2 / 272.3</b>
Limit of positive stability		<b>126.0°</b>
Stability Index		<b>128.4</b>
Freeboard at mast at 5.520		<b>1.278</b>

<b>PROPELLER</b>		
Installation <b>Strut</b>	PRD <b>0.450</b>	
Type <b>Folding</b>	PBW <b>0.116</b>	
Twin Screw <b>No</b>	PIPA <b>0.0038</b>	
ST1 <b>0.043</b>	ST3 <b>0.180</b>	ST5 <b>0.270</b>
ST2 <b>0.181</b>	ST4 <b>0.113</b>	EDL <b>1.620</b>

<b>WATER BALLAST</b>		
N/A		

<b>CENTERBOARD</b>		
N/A		



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IMS Measurement  
Certificate

**Certificate**

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VPP Ver. **2011 1.02**  
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<b>SAILS (Maximum Areas)</b>										
Mainsail	HB	MGT	MGU	MGM	MGL	MSW	Area	Area (r)	Formula	
	0.175	1.21	2.22	3.88	5.13	27.60	61.29	62.49	P/8 · (E + 2·MGL + 2·MGM + 1.5·MGU + MGT + 0.5·HB)	
Jib/Genoa	JH	JGT	JGU	JGM	JGL	JL	LPG	71.85		0.1125·JL·(1.445·LPG+2·JGL+2·JGM+1.5·JGU+JGT+0.5·JH)
	0.09	0.90	1.76	3.61	5.59	19.35	7.63			
Asymmetric	SLU	SLE	ASL	AMG	ASF	185.14		ASL · (ASF + 4·AMG) / 6		
	21.44	17.73	19.59	11.35	11.32					

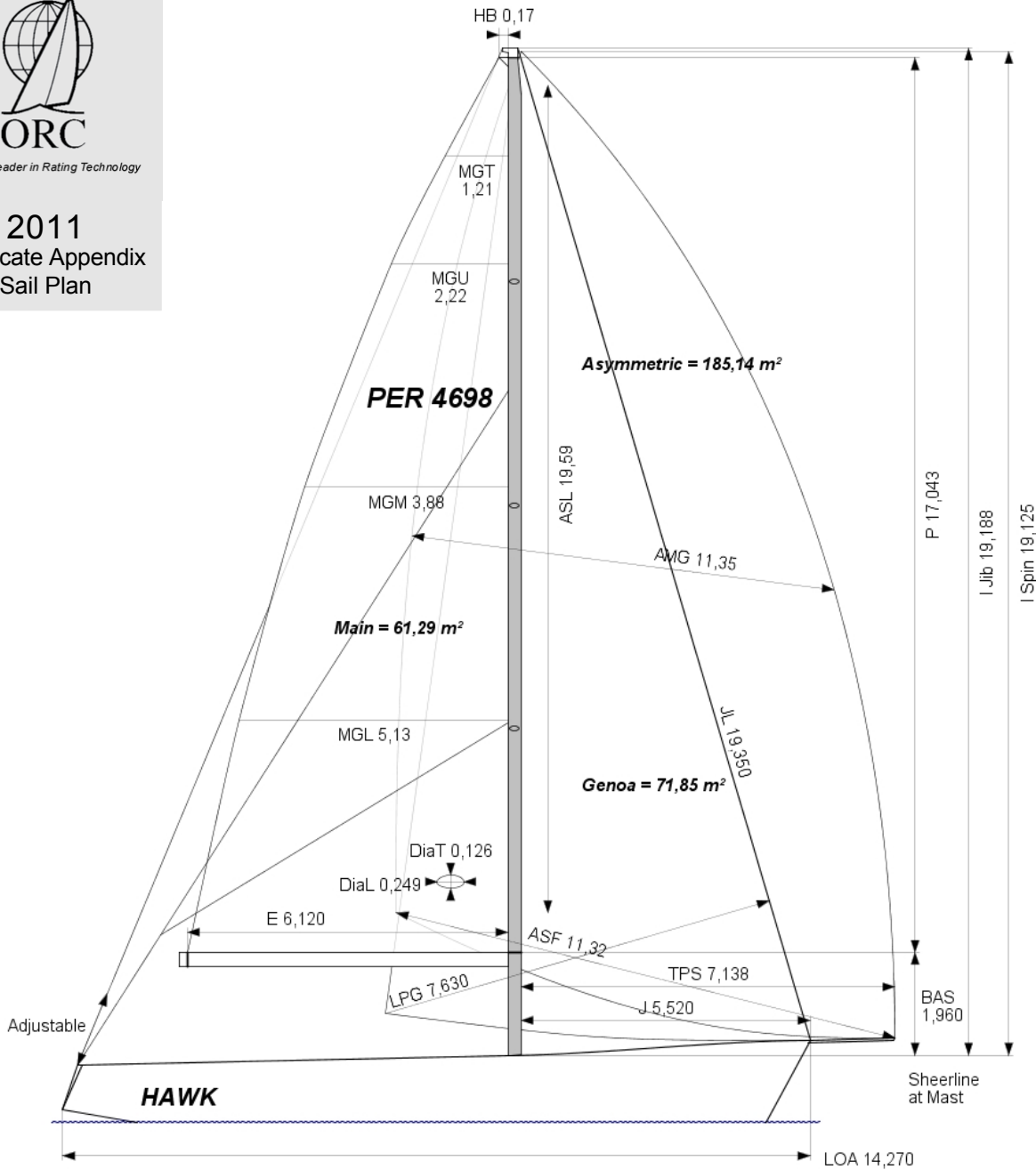
<b>MEASUREMENT INVENTORY</b>			
Measurer <b>G LIZA</b> Date <b>18/06/2010</b> Comment			
<b>Id</b>	<b>Item</b>	<b>Weight</b>	<b>Distanc Description</b>
3.4	Anchor	10.0	6.07 a babor de crujia
<b>Id</b>	<b>Item</b>	<b>Maker</b>	<b>Model</b>
1.1	Engine	YANMAR	28HP
<b>Id</b>	<b>Item</b>	<b>Weight</b>	<b>Description</b>
3.11	Deck Gear	20.0	jgo escotas, maniv elas

<b>MEASUREMENT INVENTORY</b>						
<b>Id</b>	<b>Item</b>	<b>Tank Use</b>	<b>Tank Type</b>	<b>Capct</b>	<b>Dist.</b>	<b>Condt Description</b>
2.3	Liquid Tank	PETROLEO	ACERO	130.0	10.02	7.0 CRUJIA POPA
2.2	Liquid Tank	AGUA	FLEXIBLE	50.0	6.32	0.0 A BABOR
2.1	Liquid Tank	AGUA	FLEXIBLE	50.0	6.32	0.0 A ESTRIBOR
<b>Id</b>	<b>Item</b>	<b>Weight</b>	<b>Distanc</b>	<b>Description</b>		
3.3	Ballast			0.00		corrector lado estribor másill
3.2	Ballast			0.00		corrector lado babor mastil
3.5	Battery	30.0		8.32		3 baterias a estribor bajo camilla
3.9	Miscellaneous	7.0		8.72		REFRIGERADOR A BABOR
3.7	Miscellaneous	3.0		8.70		LAVADERO A BABOR
3.10	Miscellaneous	30.0		10.67		TERMA
3.8	Miscellaneous	25.0		8.22		COCINA C/ HORNO A BABOR



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**2011**  
Certificate Appendix  
Sail Plan



**SAILS INVENTORY**

MANSAIL														
Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measurer	Meas.Date	Manufacture	Material	Comment		
M1	0.175	1.21	2.22	3.88	5.13	27.60	61.29	G Liza / J Castro	17/06/2010	Quantum	Carbon			
JIBS / GENOAS														
Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measurer	Meas.Date	Manufacture	Material	Comment
JIB	0.10	0.67	1.28	2.62	3.96	5.32	19.38	96%	51.21	GLIZA / L	24/08/2011	QUANTUM	Carbon	NUEVO FOQUE
J T	0.09	0.91	1.76	3.56	5.51	7.61	19.30	138%	71.07	G Liza	18/06/2010	Quantum	Carbon	
C1	0.09	0.90	1.76	3.61	5.59	7.63	19.35	138%	71.86	G Liza / J	17/06/2010	Quantum	Carbon	
C3	0.09	0.92	1.79	3.61	5.54	7.60	19.24	138%	71.28	G Liza / J	17/06/2010	Quantum	Carbon	
SYMMETRIC SPINNAKERS														
Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
ASYMMETRIC SPINNAKERS														
Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment		
A5	20.95	18.15	19.55	10.18	11.30	169.50	asym	G LIZA / L	24/08/2011	QUANTUM	Nylon	NUEVO SPI		
A2	21.44	17.73	19.59	11.35	11.32	185.14	asym	G LIZA / L	24/08/2011	QUANTUM	Nylon	NUEVO SPI		
A1	21.16	17.99	19.58	10.56	11.05	173.86	asym	G LIZA / L	24/08/2011	QUANTUM	Nylon	NUEVO SPI		