


<b>BOAT</b>
Name <b>ZION</b>
Sail Nr <b>GRE-1458</b>

<b>GPH</b>
<b>642,3</b>

<b>HULL</b>
Length Overall <b>9,983 m</b>
Maximum Beam <b>3,466 m</b>
Displacement <b>5.459 kg</b>
Draft <b>2,072 m</b>
IMS Reg. Division <b>Cruiser/Racer</b>
Dynamic Allowance <b>0,470%</b>
Fwd Accommodation <b>Yes</b>
Hull Construction <b>Solid</b>
Carbon Rudder <b>No</b>
Crew Arm Extension
IMS L <b>9,608</b> VCGD <b>0,245</b> VCGM <b>0,170</b>
Sink <b>18,15 kg/mm</b> Wetted Area <b>23,92 m<sup>2</sup></b>



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<b>GENERAL</b>
Class <b>ELAN 340</b>
Designer <b>R. HUMPHREYS</b>
Builder <b>ELAN</b>
Series <b>01/2007</b>
Age <b>04/2010</b>
Age Allowance <b>0,260%</b>
Offset File <b>ELAN340.OFF - 16/2/2007 10:43:12</b>
Measurement by <b>MALAKOS/KALATZIS - 05/05/2010</b>

<b>SCORING OPTIONS</b>						
	<b>OFFSHORE</b>			<b>INSHORE</b>		
	COASTAL / LONG DISTANCE			WINDWARD / LEEWARD		
Time On Distance	<b>642,3</b>			<b>697,7</b>		
Time On Time	<b>0,9342</b>			<b>0,9674</b>		
Performance Line	PLT	PLD		PLT	PLD	
	<b>0,835</b>	<b>114,1</b>		<b>0,815</b>	<b>201,0</b>	
Triple Number	Low	Medium	High	Low	Medium	High
	<b>0,9147</b>	<b>1,1877</b>	<b>1,3347</b>	<b>0,6979</b>	<b>0,9610</b>	<b>1,1167</b>

**Rating Office**

Hellenic Sailing Federation  
Offshore Committee  
Επιτροπή  
Ανοικτής Θαλάσσης  
Ελληνικής  
Ιστιοπλοϊκής Ομοσπονδίας



<b>TIME ALLOWANCES</b>							
Wind Velocity	6 kt	8 kt	10 kt	12 kt	14 kt	16 kt	20 kt
Beat VMG	<b>1095,2</b>	<b>893,0</b>	<b>793,3</b>	<b>746,7</b>	<b>718,7</b>	<b>701,3</b>	<b>694,7</b>
52°	<b>706,1</b>	<b>593,3</b>	<b>543,0</b>	<b>518,7</b>	<b>507,0</b>	<b>499,5</b>	<b>492,6</b>
60°	<b>660,9</b>	<b>567,5</b>	<b>524,9</b>	<b>501,3</b>	<b>489,6</b>	<b>482,7</b>	<b>475,5</b>
75°	<b>627,7</b>	<b>546,7</b>	<b>509,2</b>	<b>487,7</b>	<b>470,1</b>	<b>459,3</b>	<b>450,6</b>
90°	<b>608,0</b>	<b>530,4</b>	<b>494,2</b>	<b>479,7</b>	<b>468,5</b>	<b>455,3</b>	<b>432,7</b>
110°	<b>630,9</b>	<b>538,4</b>	<b>493,1</b>	<b>465,8</b>	<b>444,8</b>	<b>431,1</b>	<b>417,0</b>
120°	<b>653,3</b>	<b>551,2</b>	<b>506,7</b>	<b>478,4</b>	<b>454,7</b>	<b>433,5</b>	<b>404,0</b>
135°	<b>761,9</b>	<b>612,1</b>	<b>539,7</b>	<b>501,8</b>	<b>475,3</b>	<b>452,8</b>	<b>413,2</b>
150°	<b>914,8</b>	<b>714,0</b>	<b>599,2</b>	<b>538,6</b>	<b>503,3</b>	<b>477,6</b>	<b>436,1</b>
Run VMG	<b>1056,3</b>	<b>824,4</b>	<b>688,2</b>	<b>604,7</b>	<b>550,8</b>	<b>514,7</b>	<b>466,8</b>

<b>Certificate</b>
Number <b>000663</b>
ORC Ref <b>GRE00019242</b>
Issued On <b>8/6/2011</b>
VPP Ver. <b>2011 1.02</b>
Valid until <b>1/3/2012</b>

<b>Crew Weight</b>
Declared <b>550 kg</b>
Default* <b>607 kg</b>
Non Manual Power <b>No</b>

<b>Special Scoring</b>		
	ToD	ToT
Double Handed	<b>646,9</b>	<b>0,9275</b>
Non Spinnaker	<b>676,4</b>	<b>0,8871</b>
N/S Perf. Line	<b>76,4</b>	<b>0,739</b>

<b>Selected Courses</b>							
Windward / Leeward	<b>1094,9</b>	<b>872,7</b>	<b>752,8</b>	<b>684,5</b>	<b>642,4</b>	<b>615,0</b>	<b>586,8</b>
Circular Random	<b>886,5</b>	<b>714,8</b>	<b>622,9</b>	<b>569,7</b>	<b>537,0</b>	<b>515,6</b>	<b>489,5</b>
Ocean for PCS	<b>947,1</b>	<b>747,5</b>	<b>637,0</b>	<b>570,2</b>	<b>526,7</b>	<b>496,0</b>	<b>452,4</b>
Non Spinnaker	<b>951,2</b>	<b>759,4</b>	<b>655,0</b>	<b>593,3</b>	<b>555,1</b>	<b>530,2</b>	<b>500,3</b>

<b>Sails Limitations</b>		
Genoa	Jibs	Spinnakers
<b>3</b>	<b>2</b>	<b>3</b>
Spinnaker configuration <b>Asymmetric-Pole</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>43,9°</b>	<b>42,1°</b>	<b>40,3°</b>	<b>39,1°</b>	<b>37,6°</b>	<b>36,8°</b>	<b>37,3°</b>
Beat VMG	<b>3,29</b>	<b>4,03</b>	<b>4,54</b>	<b>4,82</b>	<b>5,01</b>	<b>5,13</b>	<b>5,18</b>
52°	<b>5,10</b>	<b>6,07</b>	<b>6,63</b>	<b>6,94</b>	<b>7,10</b>	<b>7,21</b>	<b>7,31</b>
60°	<b>5,45</b>	<b>6,34</b>	<b>6,86</b>	<b>7,18</b>	<b>7,35</b>	<b>7,46</b>	<b>7,57</b>
75°	<b>5,73</b>	<b>6,59</b>	<b>7,07</b>	<b>7,38</b>	<b>7,66</b>	<b>7,84</b>	<b>7,99</b>
90°	<b>5,92</b>	<b>6,79</b>	<b>7,29</b>	<b>7,51</b>	<b>7,68</b>	<b>7,91</b>	<b>8,32</b>
110°	<b>5,71</b>	<b>6,69</b>	<b>7,30</b>	<b>7,73</b>	<b>8,09</b>	<b>8,35</b>	<b>8,63</b>
120°	<b>5,51</b>	<b>6,53</b>	<b>7,11</b>	<b>7,52</b>	<b>7,92</b>	<b>8,30</b>	<b>8,91</b>
135°	<b>4,73</b>	<b>5,88</b>	<b>6,67</b>	<b>7,17</b>	<b>7,57</b>	<b>7,95</b>	<b>8,71</b>
150°	<b>3,94</b>	<b>5,04</b>	<b>6,01</b>	<b>6,68</b>	<b>7,15</b>	<b>7,54</b>	<b>8,25</b>
Run VMG	<b>3,41</b>	<b>4,37</b>	<b>5,23</b>	<b>5,95</b>	<b>6,54</b>	<b>6,99</b>	<b>7,71</b>
Gybe Angles	<b>143,3°</b>	<b>146,9°</b>	<b>154,5°</b>	<b>163,4°</b>	<b>169,9°</b>	<b>173,4°</b>	<b>174,7°</b>

<b>Storm Sails Areas</b>	
Heavy Weather Jib	<b>24,49</b>
Storm Jib (JL=8,75)	<b>9,07</b>
Storm Trysail	<b>10,04</b>

<b>Owner</b>
<b>IOANNIS PANOS</b>
<b>SAVAGINON 7</b>
<b>11142 ATHENS, HELLAS</b>
<b>LOIATH</b>
I certify that I understand my responsibilities under ORC Rules and Regulations
Signature

<b>BOAT</b>	
Name <b>ZION</b> File <b>GR1458.dxt</b>	Sail Nr <b>GRE-1458</b> Data in <b>meters/kilograms</b>

<b>INCLINING TEST AND FREEBOARDS</b>		
Inclining Test <b>Current Inclining</b>		
Flotation date <b>05/05/2010</b>		SG <b>1,0250</b>
FFM <b>1,308</b>	FF <b>1,308</b>	SFFP <b>0,360</b>
FAM <b>1,018</b>	FA <b>1,018</b>	SAFP <b>9,513</b>
W1 <b>68,270</b>	PD1 <b>279,0</b>	WD <b>10,100</b>
W2 <b>68,270</b>	PD2 <b>279,0</b>	GSA <b>50,3</b>
W3 <b>68,270</b>	PD3 <b>279,0</b>	RSA <b>7850,0</b>
W4 <b>68,270</b>	PD4 <b>279,0</b>	PLM <b>2200,0</b>
Maximum beam station from stem		<b>6,210</b>
RM Measured / Default		<b>94,5 / 104,2</b>
Limit of positive stability		<b>110,8°</b>
Stability Index		<b>112,2</b>
Freeboard at mast at 3,710		<b>1,145</b>



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<b>RIG</b>				
Forestay Tension <b>Aft</b>	Spreaders <b>2</b>			
Inner Forestay <b>None Fitted</b>	Runners <b>0</b>			
Carbon Mast <b>No</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>12,745</b>	E <b>4,502</b>	MDT1 <b>0,103</b>	TL <b>0,975</b>	
IG <b>13,468</b>	J <b>3,670</b>	MDL1 <b>0,193</b>	MWT	
ISP <b>14,344</b>	SFJ <b>0,040</b>	MDT2 <b>0,103</b>	MCG	
SPS <b>2,078</b>	SPL <b>3,850</b>	MDL2 <b>0,116</b>	CPW <b>2,195</b>	
BAS <b>1,698</b>	TPS <b>4,250</b>	MW <b>0,193</b>	BD <b>0,151</b>	
BAL	FSP <b>0,062</b>	GO <b>0,193</b>	BWT	

<b>PROPELLER</b>		
Installation <b>Strut</b>	PRD <b>0,409</b>	
Type <b>Folding</b>	PBW <b>0,125</b>	
Twin Screw <b>No</b>	PIPA <b>0,0018</b>	
ST1 <b>0,069</b>	ST3 <b>0,181</b>	ST5 <b>0,330</b>
ST2 <b>0,181</b>	ST4 <b>0,098</b>	EDL <b>0,325</b>

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

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

<b>COMMENTS</b>	
Cockpit skipper's seat not on board	

<b>CENTERBOARD</b>		
N/A		

<b>SAILS (Maximum Areas)</b>									
Mainsail	HB	MGT	MGU	MGM	MGL	MSW	Area	Area (r)	Formula
	0,166	0,94	1,70	2,94	3,84	13,30	34,47	35,21	$P/8 \cdot (E + 2 \cdot MGL + 2 \cdot MGM + 1.5 \cdot MGU + MGT + 0.5 \cdot HB)$
Jib/Genoa	JH	JGT	JGU	JGM	JGL	JL	LPG		
	0,08	0,68	1,25	2,46	3,75	12,65	5,18	32,02	$0.1125 \cdot JL \cdot (1.445 \cdot LPG + 2 \cdot JGL + 2 \cdot JGM + 1.5 \cdot JGU + JGT + 0.5 \cdot JH)$
Symmetric	SL	SMG	SF						
	14,04	6,83	6,83					79,91	$SL \cdot (SF + 4 \cdot SMG) / 6$
Asymmetric	SLU	SLE	ASL	AMG	ASF				
	13,94	13,16	13,55	7,40	7,60			84,01	$ASL \cdot (ASF + 4 \cdot AMG) / 6$

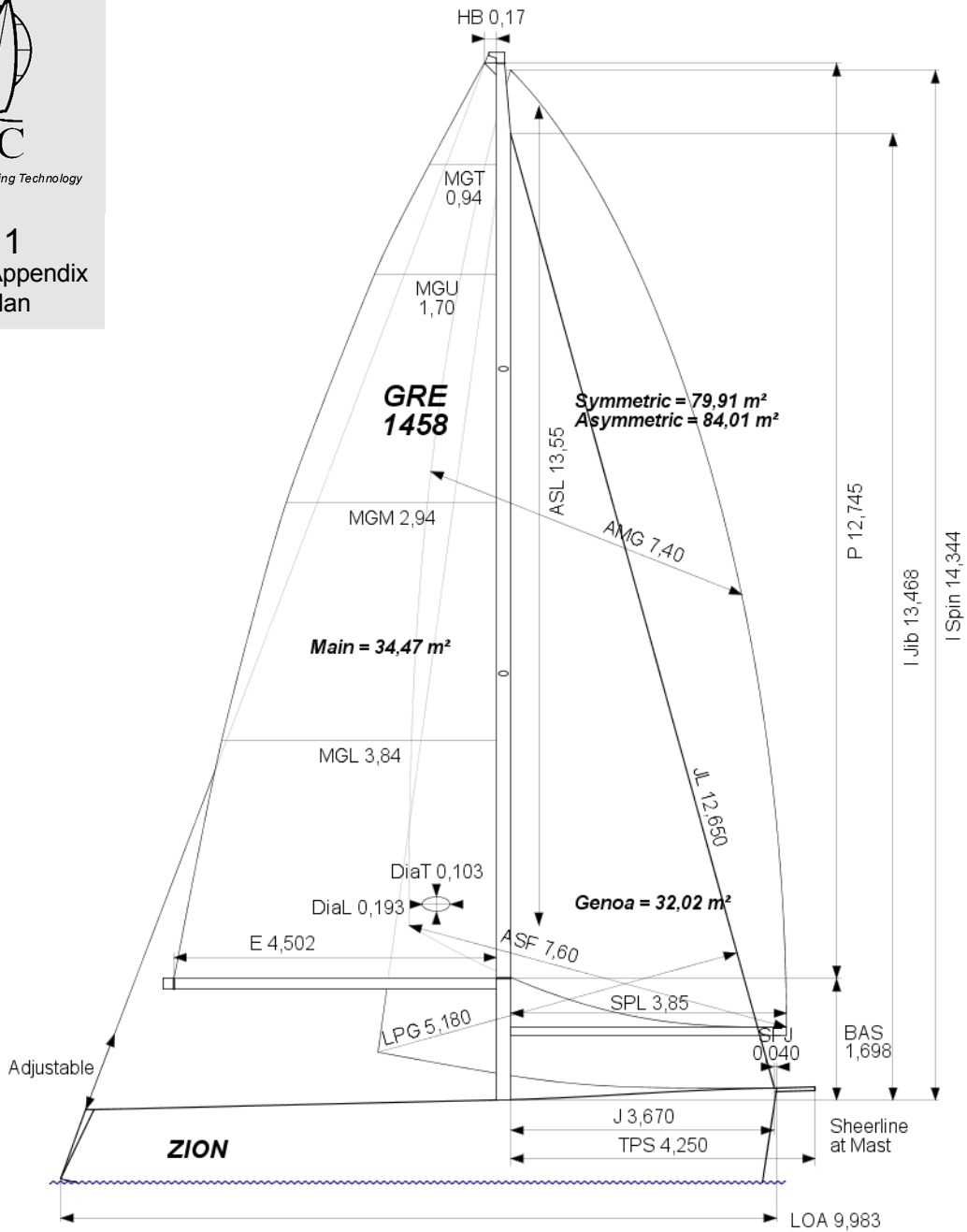
<b>MEASUREMENT INVENTORY</b>			
Measurer <b>George Malakos GRE46</b>			
Date <b>05/05/2010</b>			
Comment			
Id	Item	Weight	Distanc Description
1	Anchor	10,0	7,50 FORTRESS
1	Chain	20,3	7,50 15m 8mm
Id	Item	Maker	Model
1	Engine	VOLVO PENTA	D1-30
Id	Item	Weight	Description

<b>MEASUREMENT INVENTORY</b>						
Id	Item	Tank Use	Tank Type	Capct	Dist.	Condt Description
1	Liquid Tank	WASTE	PVC	70,0	7,50	0,0
2	Liquid Tank	WATER	flexible	100,0	3,00	0,0
3	Liquid Tank	WATER	flexible	100,0	3,00	0,0
4	Liquid Tank	FUEL	reinforced plastic	70,0	7,50	70,0
Id	Item	Weight	Distanc	Description		
1	Battery	17,9	4,00	65Ah		
2	Battery	23,5	4,00	90Ah		
3	Battery	23,5	4,00	90Ah		
1	Miscellaneous	12,0	0,95	Anchor Windlass		



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Sail Plan



**SAILS INVENTORY**

MAINSAIL														
Id	HB	MGT	MGU	MGM	MGL	MSW	Area	Measurer	Meas.Date	Manufacture	Material	Comment		
1	0,166	0,94	1,70	2,94	3,84	13,30	34,47	KALATZIS	26/04/2010	ZOUGANELI	Pentex			
JIBS / GENOAS														
Id	JH	JGT	JGU	JGM	JGL	LPG	JL	Ovrlp	Area	Measurer	Meas.Date	Manufacture	Material	Comment
2	0,08	0,68	1,25	2,46	3,75	5,18	12,65	141%	32,02	MALAKOS	25/05/2010	ZOUGANELI	Pentex	No 2
3						3,96	12,68	108%	25,11	MALAKOS	25/05/2010	ZOUGANELI	Pentex	No 3
4						2,12	8,43	58%	8,94	MALAKOS	04/06/2010	ZOUGANELI	Dacron	Storm Jib
SYMMETRIC SPINNAKERS														
Id	SL	SMG	SF	Area	Measurer	Meas.Date	Manufacture	Material	Comment					
1	14,04	6,83	6,83	79,91	KALATZIS	26/04/2010	ZOUGANELI	Unknown						
ASYMMETRIC SPINNAKERS														
Id	SLU	SLE	ASL	AMG	ASF	Area	Kind	Measurer	Meas.Date	Manufacture	Material	Comment		
1	13,94	13,16	13,55	7,40	7,60	84,01	asym	KALATZIS	20/04/2010	ZOUGANELI	Unknown			