

14 April 1999

Memo to: Norm Rabe
CC: Steve O'Connell, Dick Roberts

Subject: "C - Class" Data Analysis

As a follow on of previous work, you requested that I take another look at the "C- Class" data to determine if a five class arrangement could be supported. Previous analysis seemed to support a four class recommendation for several reasons. Paramount of these were the reduced number of boats and the inherent nature of our desire to more equitably class conventional and "HP" boats. The criticism against a four class split was primarily directed at the resulting large classes, in excess of 20 boats, and the large resulting rating spreads in each class.

Because of the nature of the way the data is structured and viewed, a five class split is less obvious. As a methodology, I started with the current five class split and reclassified the boats we had previously indicated that might be assigned an inappropriate performance class designator by ECSA, and those OSC boats that had no performance class designator assigned. The previously generated analyses of speed-length ratio, sail area - displacement ratio, and displacement-length ratio were used as the basis for these changes. All such changes are indicated on the attached sheets as bold-italics. I next tried to group like boats from the perspective of performance designator and displacement. Additionally, class size was viewed and adjusted based on PHRF rating.

The results are attached. While five classes of roughly equal size result, this constraint forced the placement of a few boats in less than an optimal position. Class two results in 22 boats with no obvious easy way to remedy. These boats are really too large to go to class five, and too heavy, on a SA/D basis to go either to class one or three. Class one looks better on a performance basis and class three results in better depth than the current structure. Class three still suffers with the dichotomy of the true HP light displacement boats and those of moderate displacement. The objective of trying to balance class size prevents a logical objective alternate solution. Rating spreads in all cases except class five are about 60 seconds, not unreasonable. Class five just suffers from the range of low end boats entered and results in a rating spread of 80 seconds.

The enclosed provides a reasonable basis to initiate "C" class assignments for this spring. It is suggested that as actual entries are received we review these considerations before making a final determination. On a similar basis, I suspect that we can likewise do a better job with the cruising classes.

If there are any questions, please let me know.


Bob Geary

OSC Class	NEW Class	ECSA Class	Name	Type	OSC PHRF	IMS GP	OSC LOA	USSA LWL	USSA Disp	IMS Disp	USSA I	USSA J	USSA P	USSA E	OSC LP/J	USSA "L"	USSA SA	OSC PHRF Vk	USSA Dis/L	USSA SA/Dis	OSC S/L	IMS Vk	IMS Dis/L	IMS SA/Dis	IMS S/L
C-1	One	SB	Finesse	Farr 40 OD	9		40.7	35.4	10950	10950	53.0	15.4	54.8	19.4	1.05	38.05	960.07	6.44	88.74	31.15	1.044		88.74	31.15	0.000
C-1	One	HP	Hooligan	Evelyn 42 Mod	33		42.2	36.0	10800	12887	52.0	16.6	46.0	17.0	1.50	39.10	1038.40	6.17	80.66	34.00	0.988		96.24	30.23	0.000
C-1	One	SB	Ragtime	J - 90	48		30.0	27.0	3200		35.6	10.5	35.9	14.5	1.05	28.50	456.52	6.02	61.71	33.64	1.128		0.00	0.00	0.000
C-1	One	HP	Secret	N/M 42	51		42.6	34.2	18600	18639	58.1	16.6	51.0	17.2	1.50	38.40	1161.95	5.99	146.65	26.48	0.967		146.95	26.45	0.000
C-1	One	HP	Abacadabra	J/N 42	51		42.3	35.3	13200		47.5	14.0	52.1	19.1	1.50	38.80	996.31	5.99	100.89	28.54	0.962		0.00	0.00	0.000
C-1	One	HP	Wolfpack	IMX 38	62		37.3	31.3	11800	12000	51.0	14.4	43.8	16.1	1.52	34.28	912.28	5.88	130.83	28.16	1.005		133.05	27.85	0.000
C-1	One	HP	Rampage	N/M 42	66		40.7	35.1	16400	16408	54.7	16.3	48.6	14.3	1.50	37.90	1016.20	5.84	134.49	25.19	0.949		134.55	25.18	0.000
C-1	One	HP	Ghost	J - 35	74		35.4	30.3	9200	10200	46.4	14.7	41.5	14.0	1.55	32.85	819.11	5.77	115.86	29.85	1.007		128.45	27.87	0.000
C-1	One	HP	J' Al' TU	J - 35	74		35.4	30.3	9200	10200	46.4	14.7	41.5	14.0	1.55	32.85	819.11	5.77	115.86	29.85	1.007		128.45	27.87	0.000
C-1	One	HP	Split Decision	J - 35	74		35.4	30.3	9200	10200	46.4	14.7	41.5	14.0	1.55	32.85	819.11	5.77	115.86	29.85	1.007		128.45	27.87	0.000
C-1	One	HP	Steamboat	J - 35	74		35.4	30.3	9200	10200	46.4	14.7	41.5	14.0	1.55	32.85	819.11	5.77	115.86	29.85	1.007		128.45	27.87	0.000
C-1	One	HP	Snowbird	Schock 35	75		35.0	29.5	10000	9500	49.0	13.8	44.0	13.8	1.50	32.25	810.75	5.76	133.10	27.95	1.014		126.44	28.92	0.000
C-1	One	HP	Ubiquitous	Tripp 37	84		36.9	31.0	11300	12109	49.8	14.5	43.3	13.5	1.50	33.95	833.85	5.68	128.92	26.49	0.975		138.15	25.30	0.000
C-1	One	HP	Starlight	Tripp 37	84		36.9	31.0	11300	13370	49.8	14.5	43.3	13.5	1.50	33.95	833.85	5.68	128.92	26.49	0.975		152.53	23.68	0.000
C-2	One	HP	Sir Prize	Sirena 38 Mod	88		38.3	30.1	11023	13333	41.7	13.6	45.0	15.4	1.50	34.20	771.84	5.64	123.02	24.93	0.965		148.80	21.96	0.000

OSC Class	NEW Class	ECSA Class	Name	Type	OSC PHRF	IMS GP	OSC LOA	USSA LWL	USSA Disp	IMS Disp	USSA I	USSA J	USSA P	USSA E	OSC LP/J	USSA "L"	USSA SA	OSC PHRF Vk	USSA Dis/L	USSA SA/Dis	OSC S/L	IMS Vk	IMS Dis/L	IMS SA/Dis	IMS S/L
C-1	Two	C	Settler	Peterson 42	63		42.1	36.0	20400	18046	57.2	17.5	49.6	13.9	1.50	39.05	1095.47	5.87	152.94	23.48	0.940		135.29	25.48	0.000
C-1	Two	C	Sterling	J - 42	74		42.0	36.1	18000	18500	50.5	14.7	46.5	18.0	1.55	39.05	993.82	5.77	134.95	23.15	0.923		138.69	22.73	0.000
C-1	Two	C	Xenophon	Swan 40-2	78		40.2	32.4	18100		54.8	15.9	47.6	16.6	1.50	36.30	1048.57	5.73	168.93	24.34	0.951		0.00	0.00	0.000
C-1	Two	C	Covenant	Beneteau 42 TM	78		41.8	36.3	21484	19811	55.4	16.7	49.2	14.6	1.50	39.05	1053.05	5.73	161.07	21.80	0.917		148.52	23.01	0.000
C-2	Two	C	Froya	Mc/Rhodes 47	87		46.3	35.8	34500	33364	60.3	18.9	54.5	17.5	1.50	41.05	1331.63	5.65	222.65	20.10	0.882		215.32	20.56	0.000
C-2	Two	C	Lindy	Peterson 38	90		37.8	32.5	13450	13333	50.5	15.2	44.3	13.0	1.50	35.15	863.65	5.63	138.26	24.43	0.949		137.06	24.58	0.000
C-2	Two	C	American Pie	C&C 40 TM DK	90		39.6	31.5	17600	18500	55.0	16.6	48.5	13.3	1.50	35.55	1007.28	5.63	174.88	23.82	0.943		183.83	23.04	0.000
C-2	Two	C	Eddystone Light	C&C 40 TM DK	90		39.6	31.5	17600	18500	55.0	16.6	48.5	13.3	1.50	35.55	1007.28	5.63	174.88	23.82	0.943		183.83	23.04	0.000
C-2	Two	C	Jet Stream	C&C 40 DK	92		39.6	31.5	17600	18500	53.0	16.6	46.5	13.3	1.50	35.55	969.08	5.61	174.88	22.92	0.940		183.83	22.17	0.000
C-2	Two	C	Tao	C&C 40 DK	92		39.6	31.5	17600	18500	53.0	16.6	46.5	13.3	1.50	35.55	969.08	5.61	174.88	22.92	0.940		183.83	22.17	0.000
C-2	Two	C	Fox Fire	Baltic 39	105		38.8	32.7	18000	16860	52.0	16.9	45.4	12.9	1.50	35.75	951.93	5.50	175.87	22.18	0.919		164.73	23.16	0.000
C-2	Two	C	Touchstone	Clearwater 36 TM	111		36.3	28.6	13500	12912	48.0	13.3	42.7	15.8	1.50	32.45	816.13	5.45	176.38	23.03	0.956		168.69	23.73	0.000
C-2	Two	C	Shamrock	Tartan 3500 SD	111		35.3	30.0	11400		46.8	13.8	41.3	14.2	1.50	32.65	777.61	5.45	146.22	24.56	0.953		0.00	0.00	0.000
C-2	Two	C	Light Fantastic	Carter 39	114		39.0	33.0	18500	20835	52.0	16.7	46.0	12.5	1.50	36.00	938.80	5.42	177.02	21.47	0.904		199.36	19.84	0.000
C-2	Two	C	Alice	Catalina 38	117		38.1	30.3	15900	17300	49.8	15.5	44.0	11.6	1.50	34.20	834.13	5.40	177.45	21.11	0.923		193.07	19.95	0.000
C-2	Two	C	Osprey	C&C 35 - 1 M	119		34.6	27.5	10500	9885	44.0	14.5	38.0	13.5	1.50	31.05	735.00	5.38	156.59	24.53	0.966		147.42	25.53	0.000
C-2	Two	C	Spirit	Morgan 36 T	126		35.5	30.0	14000	15500	48.0	15.0	42.5	12.5	1.50	32.75	805.63	5.33	177.93	22.19	0.931		196.99	20.73	0.000
C-2	Two	C	Fireball	C&C 35-II	128		35.7	30.2	13800	13500	47.0	15.0	41.0	13.5	1.50	32.95	805.50	5.31	172.21	22.40	0.925		168.47	22.73	0.000
C-2	Two	C	Tenacity II	C&C 36	129		35.7	27.8	12000	13300	47.5	15.0	41.5	11.7	1.50	31.75	777.15	5.30	167.38	23.72	0.941		185.51	22.15	0.000
C-2	Two	C	Phoenix	Pearson 36	138		36.5	29.2	13500	14500	46.0	14.8	40.5	12.8	1.50	32.85	769.80	5.23	170.01	21.72	0.913		182.61	20.71	0.000
C-2	Two	C	Aladdin	Pearson 36	138		36.5	29.2	13500	14500	46.0	14.8	40.5	12.8	1.50	32.85	769.80	5.23	170.01	21.72	0.913		182.61	20.71	0.000
C-2	Two	C	Orion	Pearson 36	138		36.5	29.2	13500	14500	46.0	14.8	40.5	12.8	1.50	32.85	769.80	5.23	170.01	21.72	0.913		182.61	20.71	0.000

OSC Class	NEW Class	ECSA Class	Name	Type	OSC PHRF	IMS GP	OSC LOA	USSA LWL	USSA Disp	IMS Disp	USSA I	USSA J	USSA P	USSA E	OSC LP/J	USSA "L"	USSA SA	OSC PHRF Vk	USSA Dis/L	USSA SA/Dis	OSC S/L	IMS Vk	IMS Dis/L	IMS SA/Dis	IMS S/L
C-3	Three	SB	Samba	Quest 30	81		30.0	27.4	5900		41.0	10.8	39.0	14.0	1.50	28.70	605.10	5.71	111.42	29.65	1.065	0.00	0.00	0.00	0.000
C-3	Three	HP	Balance	J - 33	83	620	33.3	28.0	7500	7950	44.0	12.6	39.0	14.5	1.55	30.65	712.41	5.69	116.28	29.75	1.027	5.81	123.26	28.62	1.049
C-2	Three	HP	Odraccas	Frers 36	93		36.3	29.5	10900	13024	48.3	14.5	42.3	13.3	1.50	32.90	806.56	5.60	136.64	26.25	0.976		163.27	23.31	0.000
C-2	Three	HP	Meltemi	X - 372	99		36.3	29.5	11250	12000	46.7	14.1	40.2	13.1	1.50	32.90	757.16	5.55	141.03	24.13	0.967		150.43	23.11	0.000
C-3	Three	HP	Sagacious	Express 34	99	644	34.1	28.33	8000	9300	44.3	13.0	38.5	12.8	1.50	31.22	678.33	5.55	117.42	27.13	0.993	5.59	136.50	24.54	1.001
C-3	Three	HP	Joy Ride	Evelyn 32 OB	99	643	32.1	28.2	4500	5154	38.0	12.7	33.3	12.0	1.50	30.15	561.75	5.55	73.30	32.98	1.010	5.60	83.95	30.12	1.020
C-3	Three	HP	Caliente	Evelyn 32 IB	105	649	32.1	28.2	4600	5700	38.0	12.7	33.3	12.0	1.50	30.15	561.75	5.50	74.93	32.50	1.001	5.55	92.85	28.17	1.010
C-3	Three	HP	Fish Tale	Evelyn 32 IB	105	649	32.1	28.2	4600	5700	38.0	12.7	33.3	12.0	1.50	30.15	561.75	5.50	74.93	32.50	1.001	5.55	92.85	28.17	1.010
C-2	Three	HP	Wolverine	Frers 33	111		33.3	26.5	9000	9450	45.0	13.3	39.1	13.1	1.50	29.90	704.98	5.45	150.31	26.07	0.996		157.82	25.24	0.000
C-3	Three	HP	Hawk	J - 29 MH OB	113	658	29.6	25.0	5500	6150	40.0	12.0	35.0	12.0	1.55	27.30	582.00	5.43	120.68	29.89	1.039	5.47	134.94	27.74	1.047
C-3	Three	HP	Tomahawk	J - 29 MH OB	113	658	29.6	25.0	5500	6150	40.0	12.0	35.0	12.0	1.55	27.30	582.00	5.43	120.68	29.89	1.039	5.47	134.94	27.74	1.047
C-3	Three	HP	Dirty Harry	J - 29 MH OB	114	658	29.6	25.0	5500	6150	40.0	12.0	35.0	12.0	1.50	27.30	570.00	5.42	120.68	29.27	1.038	5.47	134.94	27.17	1.047
C-3	Three	HP	Edge of Disaster	J - 29 MH OB	114	658	29.6	25.0	5500	6150	40.0	12.0	35.0	12.0	1.50	27.30	570.00	5.42	120.68	29.27	1.038	5.47	134.94	27.17	1.047
C-3	Three	HP	Schwingg	J - 29 7/8 OB	119	656	29.6	25.0	5500	5925	35.0	11.5	38.8	13.0	1.50	27.30	554.08	5.38	120.68	28.45	1.030	5.49	130.00	27.07	1.050
C-3	Three	HP	Looney Tunes	Santana 30-30 GP	123	687	29.8	25.4	6000	7522	40.8	11.7	36.2	11.1	1.50	27.60	558.93	5.35	127.40	27.08	1.018	5.24	159.72	23.29	0.997
C-4	Three	HP	Capricorn	Ericson 33	135	677	33.5	26.8	9500	11500	39.8	12.7	43.3	14.0	1.50	30.15	682.20	5.26	154.74	24.33	0.957		187.32	21.42	0.000
C-4	Three	HP	Seaquester	Ericson 33	141	677	33.5	26.8	9500	11500	39.8	12.7	43.3	14.0	1.50	30.15	682.20	5.21	154.74	24.33	0.949		187.32	21.42	0.000

OSC Class	NEW Class	ECSA Class	Name	Type	OSC PHRF	IMS GP	OSC LOA	USSA LWL	USSA Disp	IMS Disp	USSA I	USSA J	USSA P	USSA E	OSC LP/J	USSA "L"	USSA SA	OSC PHRF Vk	USSA Dis/L	USSA SA/Dis	OSC S/L	IMS Vk	IMS Dis/L	IMS SA/Dis	IMS S/L
C-3	Four	HP	Risky Business	J - 27	129	665	27.5	23.5	3800	3700	30.5	10.5	33.0	12.5	1.50	25.50	446.44	5.30	102.31	29.33	1.050	5.41	99.62	29.86	1.072
C-3	Four	HP	Mast Transit	J - 27	129	665	27.5	23.5	3800	3700	30.5	10.5	33.0	12.5	1.50	25.50	446.44	5.30	102.31	29.33	1.050	5.41	99.62	29.86	1.072
C-4	Four	HP	Pursuit	S-2 9.1	135	689	29.7	25.0	7850	8250	41.3	12.0	35.3	13.7	1.50	27.35	613.51	5.26	171.30	24.85	1.005		180.03	24.04	0.000
C-4	Four	HP	Wave walker	J - 30	138	671	29.8	25.0	7000	7150	34.2	11.5	38.0	13.0	1.62	27.40	565.57	5.23	151.91	24.73	1.000		155.17	24.38	0.000
C-4	Four	HP	The Cat Came Bal	- 30	138	671	29.8	25.0	7000	7150	34.2	11.5	38.0	13.0	1.50	27.40	541.98	5.23	151.91	23.70	1.000		155.17	23.36	0.000
C-4	Four	HP	Falcon	J - 30	138	671	29.8	25.0	7000	7150	34.2	11.5	38.0	13.0	1.50	27.40	541.98	5.23	151.91	23.70	1.000		155.17	23.36	0.000
C-4	Four	HP	En Charette	Noe 27	141		27.3	22.7	4680		30.0	10.0	33.3	12.5	1.50	25.00	433.13	5.21	133.71	24.77	1.042		0.00	#DIV/0!	0.000
C-4	Four	HP	Wharf Rat	Evelyn 25	147		24.9	20.5	2600		31.5	10.6	27.0	9.5	1.50	22.70	378.68	5.16	99.23	32.04	1.084		0.00	#DIV/0!	0.000
C-4	Four	HP	Fifi	Evelyn 25	147		24.9	20.5	2600		31.5	10.6	27.0	9.5	1.50	22.70	378.68	5.16	99.23	32.04	1.084		0.00	#DIV/0!	0.000
C-4	Four	HP	Hellfire	Soverel 26	168	700	26.0	22.5	5000	5185	36.0	10.5	30.3	9.0	1.50	24.25	419.85	5.01	156.53	22.97	1.018		162.32	22.42	0.000
C-4	Four	HP	Fun	J - 24	171	725	24.0	20.0	3031	2870	26.3	9.5	28.0	9.8	1.50	22.00	324.59	4.99	127.08	24.80	1.065		120.33	25.72	0.000
C-4	Four	HP	Maybe	J - 24	171	725	24.0	20.0	3031	2870	26.3	9.5	28.0	9.8	1.50	22.00	324.59	4.99	127.08	24.80	1.065		120.33	25.72	0.000
C-4	Four	HP	Fast Forward	J - 24	171	725	24.0	20.0	3031	2870	26.3	9.5	28.0	9.8	1.50	22.00	324.59	4.99	127.08	24.80	1.065		120.33	25.72	0.000
C-4	Four	HP	Emerald Express	J - 24	171	725	24.0	20.0	3031	2870	26.3	9.5	28.0	9.8	1.50	22.00	324.59	4.99	127.08	24.80	1.065		120.33	25.72	0.000
C-4	Four	HP	Wildflower	Evelyn 26	173		25.9	21.5	4200		29.0	9.5	29.8	12.8	1.50	23.70	397.35	4.98	140.85	24.42	1.023		0.00	#DIV/0!	0.000
C-4	Four	HP	Blue Chip	Capri 25	177		24.6	19.2	2785		30.8	9.8	26.5	9.5	1.50	21.90	352.26	4.95	118.37	28.47	1.058		0.00	#DIV/0!	0.000
C-4	Four	HP	Prophet	Evelyn 25.5	179		25.5	19.4	4300		33.5	11.0	27.0	10.5	1.70	22.45	454.98	4.94	169.66	27.53	1.042		0.00	#DIV/0!	0.000
C-4	Four	HP	Phoenix	Evelyn 26 IB	180	735	25.9	21.5	4200	4432	29.0	9.5	29.8	12.8	1.50	23.70	397.35	4.93	140.85	24.42	1.013		148.63	23.56	0.000

OSC Class	NEW Class	ECSA Class	Name	Type	OSC PHRF	IMS GP	OSC LOA	USSA LWL	USSA Disp	IMS Disp	USSA I	USSA J	USSA P	USSA E	OSC LP/J	USSA "L"	USSA SA	OSC PHRF Vk	USSA Dis/L	USSA SA/Dis	OSC S/L	IMS Vk	IMS Dis/L	IMS SA/Dis	IMS S/L
C-5	FIVE	C	Brer Rabbit III	C&C 30	149		33.0	26.4	9800	10200	43.0	14.0	37.3	10.8	1.55	29.70	667.97	5.15	167.00	23.34	0.945		173.81	22.72	0.000
C-5	FIVE	C	Elan	Elan 32	153		32.8	24.9	7300		38.8	11.8	33.7	11.8	1.50	28.85	542.21	5.12	135.72	23.05	0.953		0.00	#DIV/0!	0.000
C-5	FIVE	C	Checkered Demo	Holland T/2	161		27.7	24.8	7975		38.5	11.7	34.0	11.0	1.50	26.25	524.84	5.06	196.83	21.04	0.988		0.00	#DIV/0!	0.000
C-5	FIVE	C	Celebration	C&C 30 TM	161		30.1	24.0	7703		42.5	13.5	37.5	11.5	1.50	27.05	645.94	5.06	173.74	26.50	0.974		0.00	#DIV/0!	0.000
C-5	FIVE	C	Fascination	Beneteau 29	169		28.5	24.5	7014		36.7	11.2	31.7	10.8	1.50	26.50	479.46	5.01	168.26	20.94	0.973		0.00	#DIV/0!	0.000
C-5	FIVE	C	Anticipation	C&C 30	171		30.1	24.0	7703	9000	39.0	13.5	34.0	11.5	1.65	27.05	629.86	4.99	173.74	25.84	0.960		203.00	23.29	0.000
C-5	FIVE	C	Wave Function	Tartan 28	174		28.3	23.3	7450		38.0	11.5	33.4	11.3	1.50	25.80	516.46	4.97	193.66	21.66	0.979		0.00	#DIV/0!	0.000
C-5	FIVE	C	Salud	Pearson 30	176		30.0	25.0	8300	9100	39.0	12.7	33.5	11.8	1.65	27.50	606.27	4.96	178.17	23.66	0.946		195.34	22.25	0.000
C-5	FIVE	C	Second Draft	Catalina 30TM	177		29.9	25.0	10200	11200	43.0	13.2	37.0	12.0	1.50	27.45	647.70	4.95	220.15	22.03	0.945		241.74	20.70	0.000
C-5	FIVE	C	C'est La Vie	Elite 32	177		30.3	24.6	8377	8624	39.6	11.8	33.5	11.2	1.50	27.45	538.06	4.95	180.81	20.87	0.945		186.14	20.47	0.000
C-5	FIVE	C	Beth	Pearson 31	177		31.0	25.0	9400		35.0	11.8	39.0	13.3	1.50	28.00	569.10	4.95	191.16	20.44	0.936		0.00	#DIV/0!	0.000
C-5	FIVE	C	Chasing Rainbow	Pearson 30	179		30.0	25.0	8300		39.0	12.7	33.5	11.8	1.50	27.50	569.13	4.94	178.17	22.21	0.942		0.00	#DIV/0!	0.000
C-5	FIVE	C	Tern About	Pearson 30	182		30.0	25.0	8300		39.0	12.7	33.5	11.8	1.50	27.50	569.13	4.92	178.17	22.21	0.938		0.00	#DIV/0!	0.000
C-5	FIVE	C	Mentor	Pearson 26	211		26.2	21.7	5400		31.5	11.7	27.5	10.0	1.6	23.95	432.34	4.73	175.48	22.47	0.967		0.00	#DIV/0!	0.000
C-5	FIVE	C	Dulcinea	Pearson 26	213		26.2	21.7	5400		31.5	11.7	27.5	10.0	1.50	23.95	413.91	4.72	175.48	21.52	0.964		0.00	#DIV/0!	0.000
C-5	FIVE	C	Persistence	C&C 25	219		25.2	20.7	4300		31.5	11.0	26.5	10.0	1.50	22.95	392.38	4.68	158.81	23.74	0.977		0.00	#DIV/0!	0.000
C-5	FIVE	C	Holiday	C&C 24	227		24.0	19.5	3200		29.0	10.5	23.5	8.5	1.50	21.75	328.25	4.63	138.84	24.19	0.993		0.00	#DIV/0!	0.000