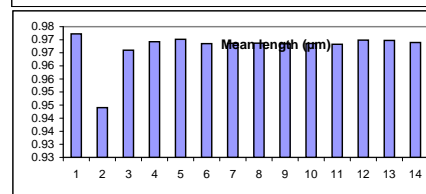
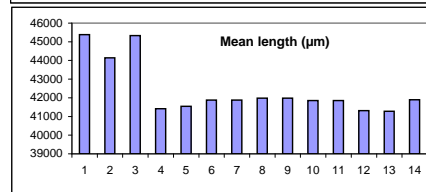
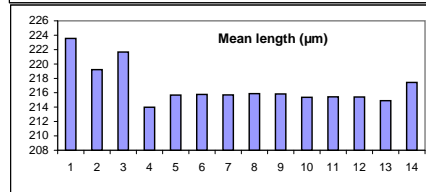
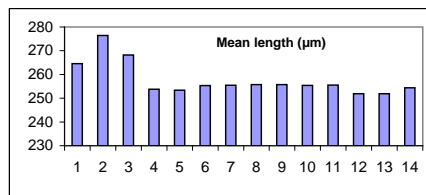


REPRODUCIBILITY		Area (µm²)	Length (µm)	Width (µm)	Roundness	Elongation	Equiv. diameter (µm)	Roughness
TEST1 measured par 158	Min. value	16287	172	108	1.17	1.06	144	0.83
	Max. value	95465	492	306	1.91	2.55	349	0.99
	Mean	45380	265	224	1.26	1.19	237	0.97
	Standard dev	13762	45	37	0.10	0.16	37	0.02
TEST2 measured par 193	Min	10920	133	89	1.17	1.05	118	0.41
	Max	159129	823	434	14.82	4.25	450	0.99
	Moy	44140	276	219	1.65	1.30	233	0.94
	Standard dev	17193	78	45	1.56	0.46	46	0.10
TEST3 measured par 176	Min	10874	159	95	1.17	1.05	118	0.59
	Max	146585	729	356	4.17	4.23	432	0.99
	Moy	45331	268	222	1.30	1.22	236	0.97
	Standard dev	16796	69	41	0.29	0.27	44	0.04
TEST4 measured par 169	Min	13936	161	100	1.17	1.06	133	0.87
	Max	73556	437	298	2.00	1.89	306	0.99
	Moy	41420	254	214	1.29	1.19	227	0.97
	Standard dev	12434	41	34	0.09	0.11	35	0.01
TEST5 measured par 166	Min	14060	164	100	1.19	1.05	134	0.91
	Max	71096	345	295	1.58	1.89	301	0.99
	Moy	41594	254	215	1.29	1.18	228	0.97
	Standard dev	11869	38	33	0.06	0.08	34	0.01
TEST6 measured par 167	Min	13921	164	100	1.18	1.05	133	0.92
	Max	71189	345	295	1.52	1.89	301	0.98
	Moy	41544	253	216	1.29	1.18	227	0.97
	Standard dev	11857	37	33	0.06	0.08	34	0.01
TEST7 measured par 166	Min	13658	159	100	1.18	1.06	132	0.84
	Max	91915	492	295	2.32	1.89	342	0.99
	Moy	41880	255	216	1.30	1.19	228	0.97
	Standard dev	13123	46	35	0.12	0.11	37	0.02
TEST8 measured par 166	Min	13704	159	100	1.19	1.06	132	0.84
	Max	92140	495	295	2.34	1.89	343	0.99
	Moy	41882	255	216	1.30	1.19	228	0.97
	Standard dev	13121	47	35	0.13	0.11	37	0.02
TEST9 measured par 165	Min	13743	159	100	1.18	1.05	132	0.84
	Max	92001	492	295	2.40	1.89	342	0.99
	Moy	41986	256	216	1.29	1.19	228	0.97
	Standard dev	13082	46	35	0.13	0.11	36	0.02
TEST10 measured par 165	Min	13704	159	106	1.19	1.05	132	0.84
	Max	92140	495	295	2.38	1.81	343	0.99
	Moy	41981	256	216	1.30	1.19	228	0.97
	Standard dev	13116	47	35	0.13	0.11	37	0.02
TEST11 measured par 165	Min	13751	159	100	1.18	1.06	132	0.84
	Max	92302	492	298	2.33	1.89	343	0.98
	Moy	41851	255	215	1.30	1.19	228	0.97
	Standard dev	13174	47	35	0.13	0.11	37	0.02
TEST12 measured par 165	Min	13689	164	106	1.18	1.05	132	0.84
	Max	92519	492	298	2.38	1.81	343	0.99
	Moy	41851	256	215	1.30	1.19	228	0.97
	Standard dev	13176	47	35	0.13	0.10	37	0.02
TEST13 measured par 167	Min	10920	150	117	1.17	1.05	118	0.87
	Max	71924	339	295	1.72	1.64	303	0.99
	Moy	41317	252	215	1.29	1.17	227	0.97
	Standard dev	12303	39	35	0.07	0.06	35	0.01
TEST14 measured par 169	Min	11106	150	117	1.19	1.04	119	0.87
	Max	71870	345	295	1.78	1.60	303	0.99
	Moy	41280	252	215	1.29	1.18	227	0.97
	Standard dev	12255	39	35	0.07	0.06	35	0.01
TEST15 measured par 164	Min	11376	167	111	1.19	1.05	120	0.88
	Max	71119	350	286	1.80	1.70	301	0.99
	Moy	41895	254	217	1.29	1.17	228	0.97
	Standard dev	12087	38	34	0.08	0.07	35	0.01

Addendum 2

Comments :

Note aberrant values in Test1, 2 and 3, showing that some particules other than foraminifera have been measured
The test also shows a progression in the manipulation, as the reproducibility is increasing with time.



TEST reproducibility on Morphotype measurements in sample 3-5

	NB	Surf
NPS 5	42	30940
	42	30950
	42	30341
	42	30315
MEAN	42.00	30637
Standard devi	0.00	308.90
NPS 4	45	56606
	44	56721
	45	56324
	43	56305
MEAN	44.25	56489
Standard devi	0.83	179.20
NPS 3	161	52080
	161	52100
	162	52057
	162	52066
MEAN	161.5	52076
Standard devi	0.50	16.51
NPS 2	108	46476
	108	46476
	108	46415
	107	46267
MEAN	107.75	46409
Standard devi	0.43	85.12
NPS 1	375	26895
	374	26969
	389	27469
	388	27462
MEAN	381.50	27199
Standard devi	7.02	268.23

Measurements series 3-5

ECH	Area (µm²)	X FCP	Y FCP	Feret 0 (µm)	Feret90 (µm)	ProjVert (µm)	ProjHoriz (µm)	Length (µm)	Width (µm)	FeretOrtho (µm)	Perimeter (µm)	ConvxPerim (µm)	Roundness	Y Max(F90)	X Max(F0)	Y Min(F90)
3-5																
N	914															
Mean	40223.22	1017.95	960.67	226.98	228.36	228.94	232.35	246.71	211.67	219.93	813.63	730.98	1.27	960.67	1051.36	879.56
95% confiden	866.60	24.65	21.60	2.69	2.70	2.73	2.77	2.77	2.43	2.64	9.21	8.17	0.00	21.60	24.64	21.66
Min	16008.84	362.00	363.00	133.49	139.05	133.49	139.05	152.95	133.49	136.27	517.26	465.74	1.17	363.00	384.00	260.00
Max	76393.88	1722.00	1545.00	344.84	344.84	344.84	350.40	353.18	305.91	311.47	1162.44	1029.93	1.55	1545.00	1772.00	1484.00
Standard dev	13367.28	380.18	333.21	41.46	41.64	42.03	42.80	42.73	37.44	40.68	142.05	125.98	0.05	333.21	380.10	334.12
13-15																
N	1018															
Mean	35194.54	1043.19	962.19	212.19	212.92	213.71	216.77	230.80	197.50	204.11	759.79	682.99	1.26	962.19	1073.99	886.63
95% confiden	719.15	24.16	20.62	2.36	2.37	2.39	2.47	2.47	2.10	2.25	8.06	7.13	0.00	20.62	24.18	20.67
Min	13116.42	362.00	363.00	116.80	116.80	116.80	119.58	152.95	108.46	108.46	489.45	434.76	1.16	363.00	382.00	274.00
Max	74444.97	1722.00	1543.00	328.15	389.33	339.28	389.33	447.74	289.22	319.81	1243.09	1133.92	1.57	1543.00	1764.00	1490.00
Standard dev	11707.05	393.25	335.67	38.42	38.54	38.99	40.13	40.14	34.18	36.63	131.23	116.13	0.05	335.67	393.70	336.49
23-25																
N	1056															
Mean	37050.06	1040.54	946.83	219.08	218.79	220.73	221.93	238.34	202.77	210.02	781.66	703.33	1.26	946.83	1072.63	869.16
95% confiden	681.08	23.25	20.52	2.23	2.23	2.25	2.27	2.32	1.96	2.12	7.48	6.68	0.00	20.52	23.32	20.49
Min	14291.95	362.00	363.00	127.92	127.92	127.92	127.92	144.61	127.92	130.71	475.54	439.19	1.17	363.00	380.00	264.00
Max	79247.63	1724.00	1545.00	367.09	339.28	367.09	339.28	375.43	289.22	297.56	1165.22	1055.38	1.48	1545.00	1772.00	1492.00
Standard dev	11292.37	385.46	340.21	36.94	36.93	37.38	37.68	38.43	32.56	35.07	124.07	110.69	0.05	340.21	386.70	339.78
33-35																
N	984															
Mean	39265.96	1035.50	963.08	226.59	223.58	228.91	228.09	244.04	209.14	217.86	804.49	723.12	1.26	963.08	1068.44	883.68
95% confiden	743.10	24.61	20.95	2.39	2.38	2.45	2.50	2.44	2.10	2.27	8.15	7.14	0.00	20.95	24.68	20.89
Min	14106.34	362.00	365.00	127.92	116.80	127.92	116.80	144.61	116.80	122.36	478.33	435.87	1.15	365.00	374.00	268.00
Max	78783.60	1724.00	1543.00	350.40	333.72	350.40	358.74	358.74	297.56	319.81	1159.66	1041.00	1.56	1543.00	1768.00	1486.00
Standard dev	11893.18	393.87	335.36	38.33	38.17	39.25	40.09	39.06	33.66	36.27	130.39	114.33	0.05	335.36	395.04	334.39

X Min(F0)	Feret22.5 (µm)	Feret45 (µm)	Feret67.5 (µm)	Feret112.5 (µm)	Feret135 (µm)	Feret157.5 (µm)	X Gravity	Y Gravity	Elongation	EquivDiam (µm)	CurveLength (µm)	CurveWidth (µm)	SurfConv (µm)	Roughness	Red Integ.	Red mean
970.74	229.74	230.41	231.39	231.11	230.10	229.47	1011.14	920.12	1.17	223.03	249.28	159.74	42541.66	0.97	1090248.24	210.49
24.67	2.69	2.68	2.69	2.72	2.69	2.68	24.65	21.63	0.00	2.49	3.17	2.04	919.72	0.00	23050.66	0.77
309.00	141.83	139.05	141.83	141.83	136.27	136.27	346.84	309.95	1.03	142.77	135.52	88.18	16803.01	0.90	440289.00	174.51
1683.00	330.93	342.06	353.18	339.28	347.62	342.06	1726.96	1514.35	1.49	311.88	401.89	287.67	82123.73	0.99	2108084.00	243.70
380.49	41.49	41.40	41.50	42.02	41.52	41.29	380.27	333.62	0.06	38.38	48.94	31.48	14186.74	0.01	355556.32	11.82
998.69	214.76	215.45	216.34	215.72	214.90	214.65	1036.34	924.40	1.17	208.71	231.31	151.15	37099.24	0.97	935167.62	206.87
24.18	2.39	2.40	2.39	2.34	2.34	2.34	24.18	20.64	0.00	2.17	2.78	1.78	764.42	0.00	18263.39	0.67
289.00	116.80	125.14	125.14	108.46	127.92	127.92	337.58	321.90	1.03	129.23	139.05	71.11	14554.97	0.87	335178.00	163.22
1691.00	372.65	442.17	447.74	325.37	353.18	342.06	1723.71	1515.06	1.55	307.87	461.56	245.89	96814.96	0.99	2434708.00	255.00
393.69	38.96	39.11	38.89	38.16	38.02	38.06	393.58	336.08	0.07	35.35	45.22	28.96	12443.91	0.01	297308.48	10.87
994.85	221.76	222.07	222.42	221.63	221.05	221.23	1033.83	908.00	1.18	214.57	238.72	154.81	39176.49	0.97	870637.93	183.53
23.22	2.30	2.30	2.26	2.19	2.20	2.21	23.27	20.50	0.00	2.03	2.56	1.79	723.69	0.00	15307.39	1.11
315.00	136.27	133.49	130.71	133.49	133.49	133.49	348.02	312.63	1.05	134.90	127.92	79.83	14946.20	0.91	319958.00	128.62
1695.00	375.43	361.53	344.84	336.50	336.50	333.72	1723.11	1516.09	1.52	317.65	384.43	285.61	85553.68	0.99	1589455.00	225.41
385.02	38.21	38.07	37.46	36.36	36.46	36.60	385.81	339.96	0.06	33.64	42.39	29.67	11998.81	0.01	253796.11	18.35
987.96	229.58	229.20	228.42	226.57	226.33	227.52	1028.19	923.33	1.17	220.89	245.17	159.48	41435.51	0.97	847178.14	168.59
24.57	2.39	2.39	2.39	2.39	2.35	2.36	24.62	20.92	0.00	2.17	2.93	1.76	791.74	0.00	15110.39	0.92
307.00	136.27	133.49	133.49	122.36	133.49	133.49	345.48	319.45	1.02	134.02	125.80	90.61	14716.52	0.93	323611.00	121.42
1687.00	358.74	353.18	342.06	330.93	342.06	330.93	1723.78	1512.43	1.48	316.72	390.17	270.34	83647.02	0.99	1570354.00	207.02
393.27	38.20	38.18	38.24	38.20	37.55	37.83	394.05	334.75	0.06	34.66	46.89	28.22	12671.59	0.01	241838.35	14.72

Red Var	Green Integ.	Green mean	Green Var	Blue Integ.	Blue mean	Blue Var	Area/Perimet	Shapefactor
316.11	940039.69	181.76	420.84	621739.04	120.55	494.07	48.03	0.74
14.98	19799.99	0.80	26.48	12990.55	0.69	14.15	0.53	0.00
74.58	366282.00	144.87	66.78	249570.00	96.25	160.76	30.78	0.61
1613.42	1864362.00	219.14	2309.49	1299452.00	159.24	1446.19	66.78	0.80
231.08	305414.77	12.33	408.45	200379.15	10.62	218.23	8.25	0.03
213.14	797090.85	177.03	292.92	522627.78	116.28	444.16	45.05	0.75
4.76	15106.05	0.70	7.16	9790.42	0.57	5.48	0.47	0.00
-0.02	284985.00	134.42	62.96	213738.00	93.77	199.38	25.77	0.60
708.18	2217103.00	232.21	922.08	1280042.00	160.36	742.41	63.89	0.81
77.41	245910.22	11.46	116.49	159377.56	9.33	89.25	7.58	0.03
595.04	741841.97	156.69	785.80	470053.64	99.36	642.48	46.28	0.74
17.56	12583.42	0.85	34.69	8183.56	0.69	10.42	0.44	0.00
135.23	306091.00	118.45	110.82	187672.00	72.55	229.12	28.68	0.64
1908.52	1375937.00	194.28	2774.61	949873.00	137.32	1386.87	68.01	0.80
291.13	208632.72	14.02	575.11	135683.27	11.45	172.84	7.26	0.03
642.16	740643.49	147.89	1106.60	465080.90	92.70	666.92	47.65	0.75
17.78	12785.03	0.85	27.21	8362.69	0.62	10.88	0.46	0.00
212.83	299999.00	102.33	226.41	179374.00	66.83	309.31	29.32	0.60
2022.15	1332649.00	193.57	2699.62	939070.00	138.16	1466.58	67.94	0.82
284.52	204621.45	13.64	435.47	133842.93	9.87	174.21	7.34	0.03