Appendix 2: Statistics analysis for 2.84N load

H_0: $\mu_1-\mu_2 = 0$ H_1: $\mu_1-\mu_2 \neq 0$

NO DEBRIS		**WITH DEBRIS**				**Standard Error**
ave	std dev	**ave**	std dev	(mean1)^2/(9)	(mean2)^2/(6)	
#DIV/0!	#DIV/0!	**#DIV/0!**	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
5.4	0.35	**5.12**	0.34	9.72	8.738133333	1.0546875
4.9	0.945578	**4.59**	0.945578	8.003333333	7.0227	1.067538126
4.56	0.630385	**4.1**	0.315193	6.9312	5.603333333	1.112195122
3.89	0.472789	**3.95**	0.236395	5.044033333	5.200833333	0.984810127
3.45	0.378231	**3.214966**	0.189116	3.9675	3.44533515	1.073106265
2.994331	0.630385	**3.151927**	0.157596	2.9886726	3.311548587	0.95
2.971817	0.54033	**3.1069**	0.135083	2.943899111	3.217608739	0.956521739
2.718537	0.590986	**2.954932**	0.236395	2.463481691	2.91054075	0.92
2.73167	0.525321	**2.941799**	0.210128	2.487340939	2.884726769	0.928571429
2.458503	0.472789	**2.742177**	0.378231	2.01474616	2.506511126	0.896551724
2.492888	0.429808	**2.664811**	0.429808	2.071496798	2.367073035	0.935483871
2.363945	0.236395	**2.60034**	0.236395	1.86274608	2.253922757	0.909090909
2.327577	0.145474	**2.473051**	0.145474	1.805871703	2.038659852	0.941176471
2.161322	0.135083	**2.431487**	0.202624	1.557103662	1.970709322	0.888888889
2.017233	0.126077	**2.395465**	0.063039	1.356410301	1.912750464	0.842105263
1.950255	0.177296	**2.304847**	0.177296	1.267831551	1.770772993	0.846153846
1.891156	0.222489	**2.169268**	0.166867	1.192157491	1.568574	0.871794872
1.838624	0.105064	**2.048753**	0.157596	1.126846394	1.399129278	0.897435897
1.741855	0.099535	**2.040458**	0.199069	1.011352442	1.387823229	0.853658537
1.654762	0.094558	**1.985714**	0.141837	0.912745579	1.314353634	0.833333333
1.575964	0.090055	**1.891156**	0.135083	0.827887147	1.192157491	0.833333333
1.590291	0.042981	**1.848176**	0.085962	0.843008061	1.138584298	0.860465116
1.521148	0.041112	**1.76782**	0.082224	0.7712966	1.041729301	0.860465116
1.457766	0.039399	**1.694161**	0.078798	0.70836094	0.956727084	0.860465116
1.399456	0.037823	**1.664218**	0.151293	0.652825442	0.923206761	0.840909091
1.381999	0.072737	**1.600209**	0.145474	0.636640317	0.853556547	0.863636364
1.365835	3.12E-14	**1.610985**	0.070043	0.621835235	0.865090964	0.847826087
1.317055	3E-14	**1.55345**	0.067541	0.578211589	0.804402185	0.847826087
1.304246	0.032606	**1.532489**	0.032606	0.567019021	0.782840636	0.85106383
1.260771	0.031519	**1.481406**	0.031519	0.529847774	0.731521083	0.85106383
1.220101	0.030503	**1.464121**	0.091508	0.496215397	0.714550172	0.833333333
1.181973	0.029549	**1.418367**	0.088648	0.46568652	0.670588589	0.833333333
1.146155	0.028654	**1.40404**	0.057308	0.437890722	0.657109765	0.816326531
1.112445	0.027811	**1.390556**	0.027811	0.412511243	0.644548817	0.8
1.107677	0.054033	**1.350826**	0.027017	0.408983009	0.608243618	0.82
1.103175	2.34E-14	**1.339569**	0.078798	0.405664702	0.598148464	0.823529412
1.073359	2.29E-14	**1.328921**	0.051112	0.384033202	0.588676745	0.807692308
1.069996	0.024884	**1.293949**	0.049767	0.381630748	0.558101429	0.826923077
1.042561	0.024246	**1.285017**	0.024246	0.362310848	0.550422484	0.811320755
1.016497	0.023639	**1.252891**	0.023639	0.34442175	0.523245374	0.811320755
0.991704	0.023063	**1.222333**	0.023063	0.32782558	0.49803248	0.811320755
0.968092	0.022514	**1.19323**	0.022514	0.31240068	0.474598979	0.811320755
0.989559	1.95E-14	**1.16548**	0.02199	0.326408724	0.452781286	0.849056604
0.967069	1.91E-14	**1.160482**	1.91E-14	0.311740563	0.448906411	0.833333333
0.966591	0.021013	**1.134694**	1.86E-14	0.311432747	0.429176697	0.851851852

0.945578	0.020556	**1.110027**	1.83E-14	0.298039373	0.410719665	0.851851852
0.92546	0.020119	**1.106528**	0.040237	0.285491767	0.408134497	0.836363636
0.906179	0.0197	**1.083475**	0.039399	0.273720188	0.391306034	0.836363636
0.887686	0.019298	**1.061363**	0.038595	0.262661938	0.375497336	0.836363636
0.869932	0.018912	**1.040136**	0.037823	0.252260525	0.360627641	0.836363636

D O F	**t calc**	**t-test**
#DIV/0!	#DIV/0!	
0.216095	1.295725	1
0.265076	1.169477	1
0.315577	1.457648	1
0.390348	-0.15371	1
0.53694	0.437729	1
0.633235	-0.24887	1
0.647913	-0.20849	1
0.739206	-0.3198	1
0.74054	-0.28375	1
0.874366	-0.32443	1
0.897212	-0.19162	1
0.962965	-0.24549	1
1.036638	-0.14033	1
1.118473	-0.24155	1
1.189118	-0.31808	1
1.281292	-0.27675	1
1.422447	-0.19552	1
1.565358	-0.13424	0.816
1.627174	-0.18351	0.816
1.739493	-0.19026	0.816
1.917791	-0.16435	0.816
1.974645	-0.1306	0.816
2.158238	-0.11429	0.816
2.34999	-0.10059	0.816
2.465455	-0.10739	0.765
2.628515	-0.08302	0.765
2.619992	-0.09357	0.765
2.81766	-0.0839	0.765
2.889409	-0.07899	0.765
3.092114	-0.07135	0.765
3.199648	-0.07626	0.765
3.409407	-0.06934	0.765
3.512197	-0.07343	0.741
3.610124	-0.07704	0.741
3.78695	-0.06421	0.741
3.843484	-0.06151	0.741
3.937923	-0.0649	0.741
4.111541	-0.05447	0.741
4.203877	-0.05767	0.741
4.422225	-0.05346	0.741
4.6461	-0.04964	0.727
4.875503	-0.04618	0.727
5.001965	-0.03517	0.727
5.093064	-0.03798	0.727

5.267811	-0.03191	0.727
5.504537	-0.02988	0.718
5.591972	-0.03238	0.718
5.832459	-0.0304	0.718
6.07801	-0.02857	0.718
6.328624	-0.02689	0.718

$t_{ca}| < t_{test}$

There is a difference in the "No debris" and 'With debris" results at 2.84N load