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Effect of SiC abrasive breakdown on the wear rate of WC-12wt%Co alloy

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Appendix 1: Statistics analysis for 2.16N load

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

NO DEBRIS		**WITH DEBRIS**			
mean	std	**ave**	std	(mean1)^2/(9)	(mean2)^2/(6)
#DIV/0!	#DIV/0!	**#DIV/0!**	#DIV/0!	#DIV/0!	#DIV/0!
2.98	0.23	**2.9**	0.2	0.986711111	1.401666667
2.9789	0.35	**2.902**	0.56	0.985982801	1.403600667
2.965	0.10506424	**2.95**	0.23	0.976802778	1.450416667
2.971	0.23	**2.92**	0.32	0.980760111	1.421066667
2.96281167	0.12607709	**2.87**	0.094558	0.975361444	1.372816667
2.941798822	0.39	**2.65**	0.315193	0.96157559	1.170416667
2.938	0.49530286	**2.499028**	0.337706	0.959093778	1.040856892
2.95	0.51218819	**2.363945**	0.472789	0.966944444	0.93137304
2.836734578	0.63038546	**2.363945**	0.472789	0.894118118	0.93137304
2.742176759	0.4727891	**2.17483**	0.378231	0.835503709	0.788314141
2.66481127	0.34384662	**2.106061**	0.214904	0.789024345	0.739248486
2.60034003	0.23639455	**1.969955**	0.157596	0.751307586	0.646786833
2.497296253	0.31519273	**1.963893**	0.21821	0.692943175	0.64281273
2.499028081	0.2701652	**1.857386**	0.168853	0.693904594	0.574980295
2.353439057	0.27316703	**1.796599**	0.094558	0.615408377	0.537961068
2.344245936	0.216695	**1.71386**	0.059099	0.61060989	0.489552954
2.261971363	0.25957048	**1.668667**	0.166867	0.568501605	0.464075148
2.153816994	0.26266061	**1.628496**	0.105064	0.515436405	0.441999749
2.123403661	0.18248	**1.592553**	0.049767	0.500982568	0.422704041
2.048752751	0.20487528	**1.536565**	0.165476	0.466376426	0.393505109
1.951193096	0.19511931	**1.463395**	0.157596	0.423017166	0.356920734
1.856771724	0.18051947	**1.396877**	0.150433	0.383066804	0.325210834
1.800709776	0.19733806	**1.377255**	0.10278	0.360283966	0.316138645
1.749319656	0.09455782	**1.339569**	0.078798	0.340013251	0.299074232
1.702040747	0.11346938	**1.304898**	0.056735	0.321882523	0.283793091
1.680219712	0.15274725	**1.272894**	0.036368	0.313682031	0.270043071
1.660015049	0.0840514	**1.295792**	0.070043	0.306183329	0.279846297
1.600728798	0.08104956	**1.249514**	0.067541	0.284703632	0.260214223
1.545531253	0.07825475	**1.206427**	0.065212	0.265407428	0.242577825
1.494013544	0.07564626	**1.229252**	5.60E-14	0.248008497	0.25184327
1.482422586	0.10980908	**1.189598**	5.41E-14	0.244175191	0.235857381
1.43609688	0.10637755	**1.152423**	5.24E-14	0.229152694	0.221346624
1.409771124	0.03438466	**1.146155**	0.057308	0.220828291	0.218945361
1.362745042	0.02781112	**1.112445**	0.055622	0.206341561	0.206255621
1.35082599	0.05403304	**1.080661**	0.054033	0.202747873	0.194637958
1.313303045	0.05253212	**1.076908**	0.026266	0.191640543	0.193288652
1.277808369	0.05111234	**1.047803**	0.025556	0.181421581	0.182981806
1.244181832	0.04976727	**1.020229**	0.024884	0.171998715	0.173477904
1.212279734	0.04849119	**1.018315**	0.072737	0.16329135	0.172827565
1.181972741	0.04727891	**1.016497**	0.047279	0.15522884	0.172210875
1.153144137	0.04612577	**0.991704**	0.046126	0.147749045	0.16391279
1.125688325	0.04502753	**0.968092**	0.045028	0.140797134	0.15620034
1.121499717	0.06597057	**0.945578**	0.04398	0.139751291	0.149019687
1.096011087	0.06447124	**0.924088**	0.042981	0.133471145	0.142323037
1.071655285	0.06303855	**0.924565**	0.021013	0.127605006	0.142470179
1.068914479	0.02055605	**0.904466**	0.020556	0.126953129	0.136343153
1.086408987	0.06035606	**0.885222**	0.020119	0.131142721	0.130603039
1.063775467	0.05909864	**0.86678**	0.0197	0.12573536	0.125217931

1.042065763	0.05789254	**0.849091**	0.019298	0.120655673	0.120159147
1.021224448	0.05673469	**0.832109**	0.018912	0.115877708	0.115400845

Standard Error	**D O F**	**t calc**	**t-test**
#DIV/0!	**#DIV/0!**	#DIV/0!	
0.839020625	**4.6409273**	0.017238	0.727
0.838132896	**4.63511474**	0.016591	0.727
0.820648258	**4.49477042**	0.003337	0.741
0.830757309	**4.58256851**	0.011129	0.741
0.842900905	**4.7357447**	0.019598	0.727
0.906403275	**5.47291278**	0.053317	0.727
0.959919968	**6.03013735**	0.072796	0.718
1.018917286	**6.53771994**	0.089642	0.711
0.979795897	**6.67645921**	0.070814	0.711
1.029495689	**7.67595111**	0.073912	0.706
1.033118123	**8.16744602**	0.068412	0.706
1.077775487	**9.06531821**	0.069538	0.703
1.038261085	**9.36302082**	0.056969	0.703
1.098559036	**10.0459251**	0.063871	0.7
1.069562773	**10.9613627**	0.0508	0.697
1.116817163	**11.6372586**	0.05417	0.695
1.106806476	**12.3702763**	0.047962	0.695
1.079882575	**13.245828**	0.039659	0.694
1.088662108	**13.7640402**	0.038568	0.692
1.088662108	**14.7853618**	0.034642	0.691
1.088662108	**16.3008614**	0.029925	0.69
1.085312378	**17.933377**	0.025645	0.688
1.067538813	**18.6783313**	0.022671	0.688
1.066248476	**19.7613921**	0.020735	0.687
1.06499554	**20.8431417**	0.019054	0.686
1.077775487	**21.7125677**	0.01876	0.686
1.045998322	**21.4025346**	0.017018	0.686
1.045998323	**23.0172663**	0.015259	0.685
1.045998323	**24.6907156**	0.013734	0.684
0.992357382	**24.5343681**	0.010791	0.684
1.017480355	**25.8381649**	0.011333	0.684
1.017480355	**27.53203**	0.010303	0.683
1.004290795	**28.0413238**	0.009401	0.683
1.000208311	**29.8326687**	0.00839	0.683
1.020620726	**31.2530037**	0.008644	0.683
0.995727538	**31.9102688**	0.007408	0.683
0.995727538	**33.7076836**	0.006824	0.683
0.995727537	**35.5543427**	0.006299	0.683
0.972019739	**36.1150952**	0.005371	0.683
0.949414629	**36.6127852**	0.00452	0.683
0.949414629	**38.4663075**	0.004197	0.683
0.949414629	**40.3655957**	0.003904	0.681
0.968402921	**41.9562049**	0.004193	0.681
0.968402922	**43.9303476**	0.003914	0.681
0.946393764	**44.3114493**	0.003319	0.681
0.964950505	**45.93022**	0.00358	0.681
1.002063985	**47.066143**	0.004275	0.681
1.002063986	**49.0902641**	0.004013	0.681

1.002063985	**51.1569984**	0.003772	0.681
1.002063985	**53.2663456**	0.00355	0.681

t_{ca}l< t_{test}

There is a difference in the "No debris" and 'With debris" results at 2.16N load