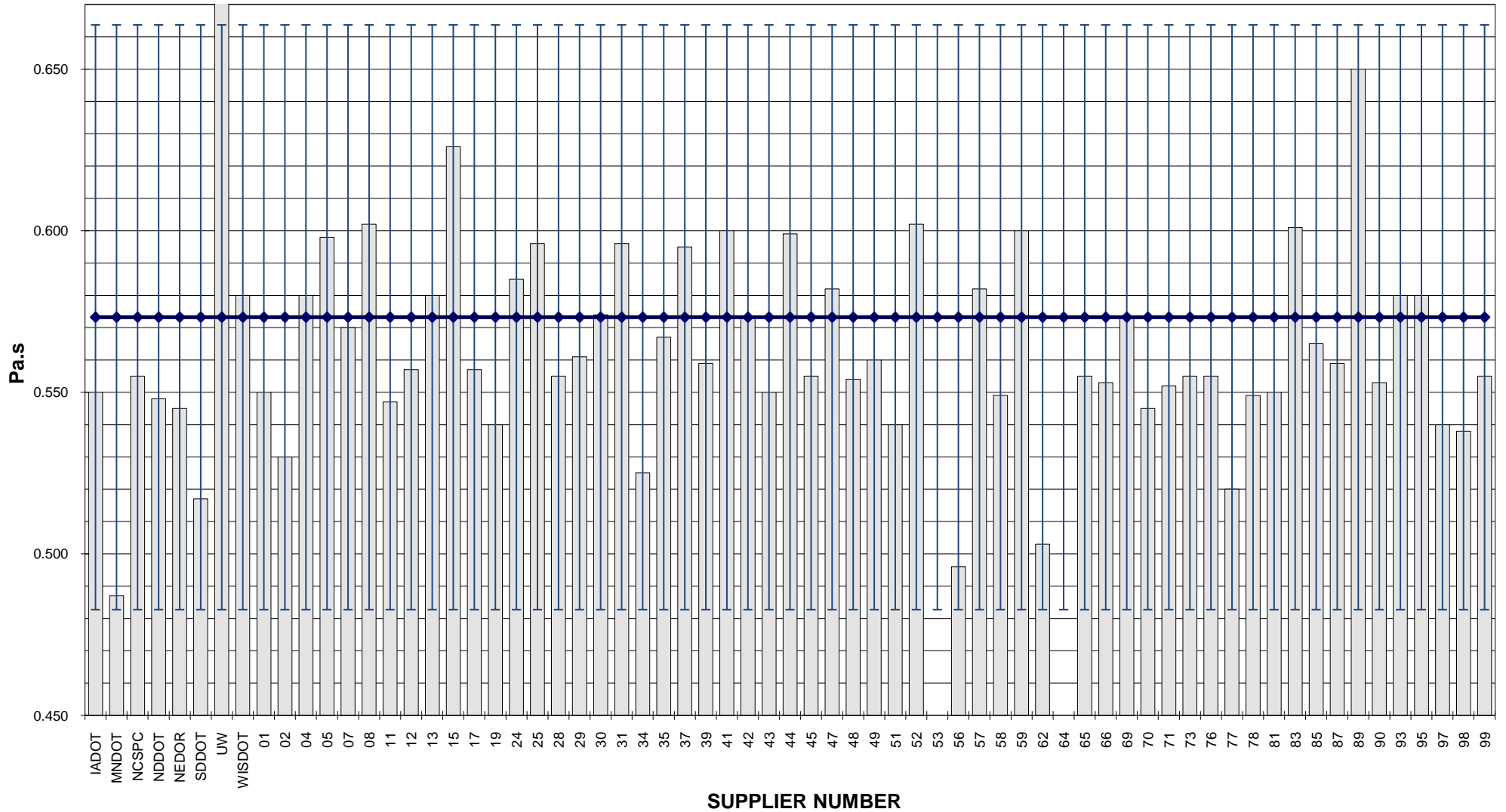


**COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
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Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @64°C	DSR RTFO (kPa) @64°C	DSR PAV (kPa) @22°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-18°C	BBR m-value @-18°C	DTT Strain (%) @-18°C	DTT Stress (MPa) @-18°C	CRACK TEMP (°C)	MSCR % RECOVERY @ 100Pa	MSCR % RECOVERY @ 3200Pa
IADOT	0.550	1.29	2.65	2570	-0.298	210	0.317				44.49	29.31
MNDOT	0.487	1.29	2.98	2725	-0.345	186	0.327					
NCSPC	0.555	1.36	2.92	2650	-0.350	198	0.325				42.42	26.71
NDDOT	0.548	1.31	2.69	2617	-0.320	204	0.320				45.65	29.17
NEDOR	0.545	1.34	3.02	2678	-0.276	208	0.324				43.80	28.95
SDDOT	0.517	1.32	3.07	2304	-0.350	189	0.332				43.04	29.57
UW	1.254	1.33	2.95	2940	-0.199	222	0.316					
WISDOT	0.580	1.23	2.56	1959	-0.144	194	0.327					
01	0.550	1.26	3.04	2548	-0.262	206	0.322				44.33	29.43
02	0.530	1.33	2.91	2953	-0.307	215	0.321				43.78	28.74
04	0.580	1.28	2.71	2480	-0.306	208	0.315					
05	0.598	1.25	2.63	2568	-0.285	199	0.318				41.31	30.26
07	0.570	1.23	2.64	3054	-0.322	203	0.310				40.54	28.70
08	0.602	1.25	2.59	2370	-0.215	196	0.318				41.87	30.97
11	0.547	1.33	3.07	2953	-0.307	223	0.324				42.86	29.28
12	0.557	1.36	2.85	2700	-0.418	210	0.320					
13	0.580	1.13	2.87	2525	-0.342	194	0.320	1.45	3.59	-29.00	44.50	28.60
15	0.626	1.27	2.82	2416	-0.309	191	0.330				43.24	28.40
17	0.557	1.28	2.98	2569	-0.252	198	0.322				44.52	29.29
19	0.540	1.28	2.90	2480	-0.337	218	0.323				43.29	28.13
24	0.585	1.19	2.84	2620	-0.294	181	0.313	1.40	3.85	-29.50	44.21	28.37
25	0.596	1.25	2.92	3099	-0.294	212	0.321					
28	0.555	1.27	2.66	3026	-0.278	227	0.310				45.44	30.49
29	0.561	1.32	2.59	2444	-0.384	187	0.319					
30	0.574	1.44	2.98	1827	-0.277	189	0.345					
31	0.596	1.21	2.60	2544	-0.287	202	0.315				41.88	30.96
34	0.525	1.30	2.99	2317	-0.265	219	0.319				45.08	29.90
35	0.567	1.34	2.95	2320	-0.280	246	0.300					
37	0.595	1.39	2.62	2452	-0.342	237	0.308	1.62	4.19	-28.00	44.20	28.68
39	0.559	1.23	2.95	2510	-0.289	212	0.319					
41	0.600	1.26	2.70	2405	-0.219	211	0.316				42.08	31.80
42	0.573	1.23	2.78	2390	-0.369	211	0.321				42.90	26.46
43	0.550	1.30	2.77	2469	-0.258	215	0.340					
44	0.599	1.28	2.65	2727	-0.214	198	0.311				41.29	30.54
45	0.555	1.32	3.05	2647	-0.250	195	0.320				45.10	30.10
47	0.582	1.27	2.72	2516	-0.311	209	0.316					
48	0.554	1.31	2.98	2460	-0.255	226	0.321				43.47	28.48
49	0.560	1.26	2.86	2530	-0.340	203	0.323				42.41	26.75
51	0.540	1.30	2.89	2460	-0.368	216	0.327				44.49	26.90
52	0.602	1.22	2.53	2409	-0.294	202	0.313				41.54	29.94
53												
56	0.496	1.28	2.78	2627	-0.309	222	0.319				44.47	30.63
57	0.582	1.26	2.74	2544	-0.308	207	0.315	2.12	4.43			
58	0.549	1.32	3.00	3010	-0.304	220	0.321				44.85	29.94
59	0.600	1.25	2.93	3099	-0.274	217	0.320					
62	0.503	1.23	2.86	2720	-0.325	219	0.321				44.03	30.86
64												
65	0.555	1.23	2.91	2260	-0.280	189	0.326				44.60	29.80
66	0.553	1.24	2.71	2779	-0.286	228	0.315				44.65	29.73
69	0.573	1.38	2.60	3597	-0.342	210	0.318	2.84	5.93	-33.10	39.09	29.50
70	0.545	1.36	2.76	2190	-0.268	204	0.330				45.63	31.31
71	0.552	1.33	3.07	2524	-0.269	202	0.324					
73	0.555	1.29	2.80	1750	-0.301	192	0.336					
76	0.555	1.25	2.98	2648	-0.204	238	0.310				41.10	26.30
77	0.520	1.32	2.83	2860	-0.272	221	0.318				42.00	26.20
78	0.549	1.32	3.03	2780	-0.306	210	0.319				45.01	30.14
81	0.550	1.32	3.06	3020	-0.302	214	0.317				45.04	30.20
83	0.601	1.26	2.65	2552	-0.219	196	0.316				41.69	30.68
85	0.565	1.25	3.01	2755	-0.253	219	0.312				40.50	25.50
87	0.559	1.31	2.83	2700	-0.251	214	0.314					
89	0.650	1.31	2.89	2459	-0.311	186	0.331				45.28	29.37
90	0.553	1.26	2.84	2651	-0.285	222	0.311				45.35	30.62
93	0.580	1.28	3.03	2760	-0.292	199	0.321	1.64	4.25	-31.00	44.60	29.30
95	0.580	1.34	3.08	2711	-0.333	213	0.314					
97	0.540	1.28	2.92	2570	-0.360	211	0.324				43.30	27.53
98	0.538	1.30	2.88	2540	-0.366	209	0.325				43.59	27.47
99	0.555	1.28	2.71	2329	-0.278	221	0.318				45.63	29.96
Average	0.573	1.29	2.84	2595	-0.294	209	0.320	1.85	4.37	-30.12	43.49	29.15
Std. Dev.	0.0905	0.0508	0.1551	295.95	0.0483	13.5210	0.0074	0.5500	0.8201	1.9867	1.6098	1.4947
Coef. of Var.	15.785	3.944	5.455	11.405	16.430	6.485	2.318	29.809	18.752	-6.596	3.701	5.128

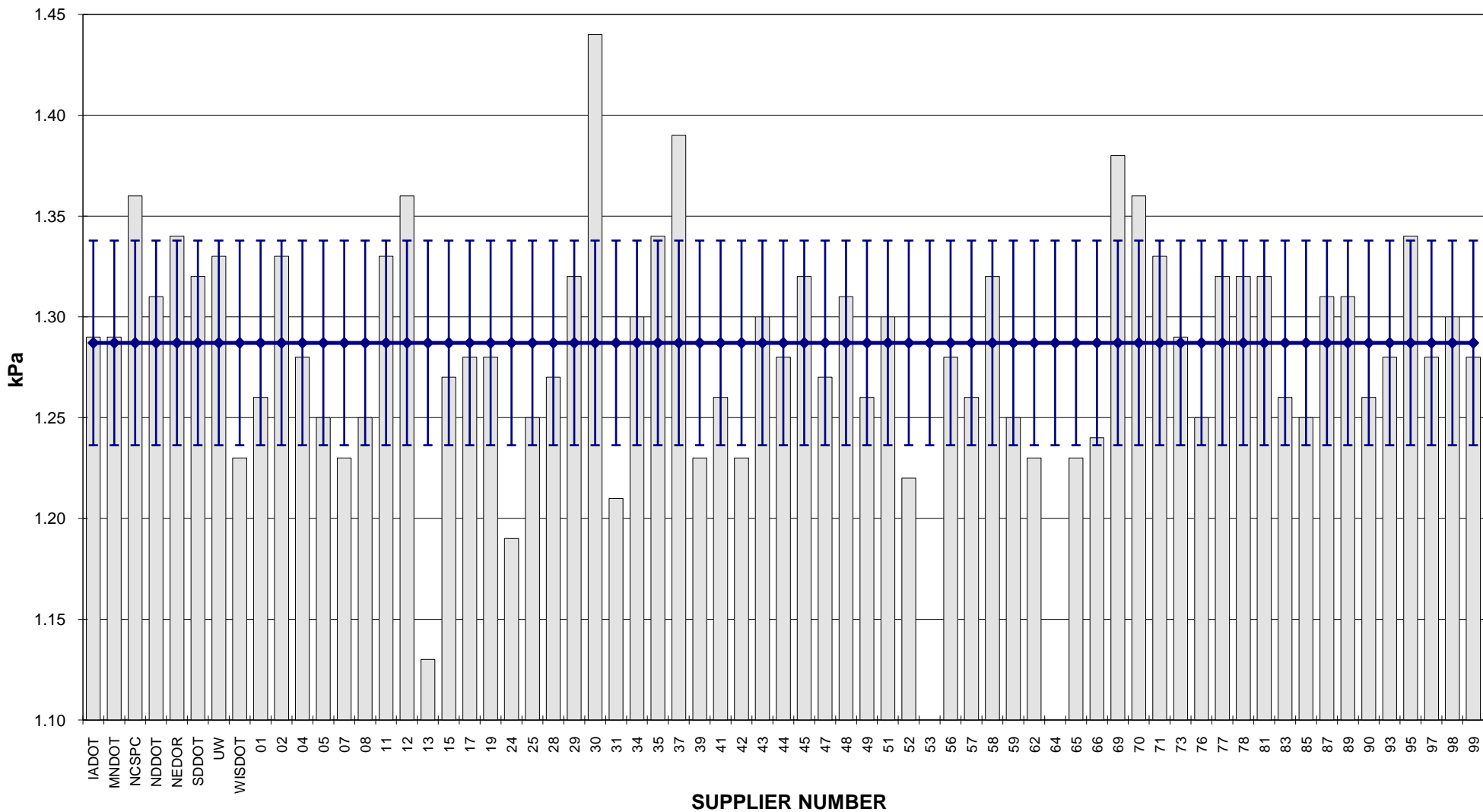
COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
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ROTATIONAL VISCOSITY



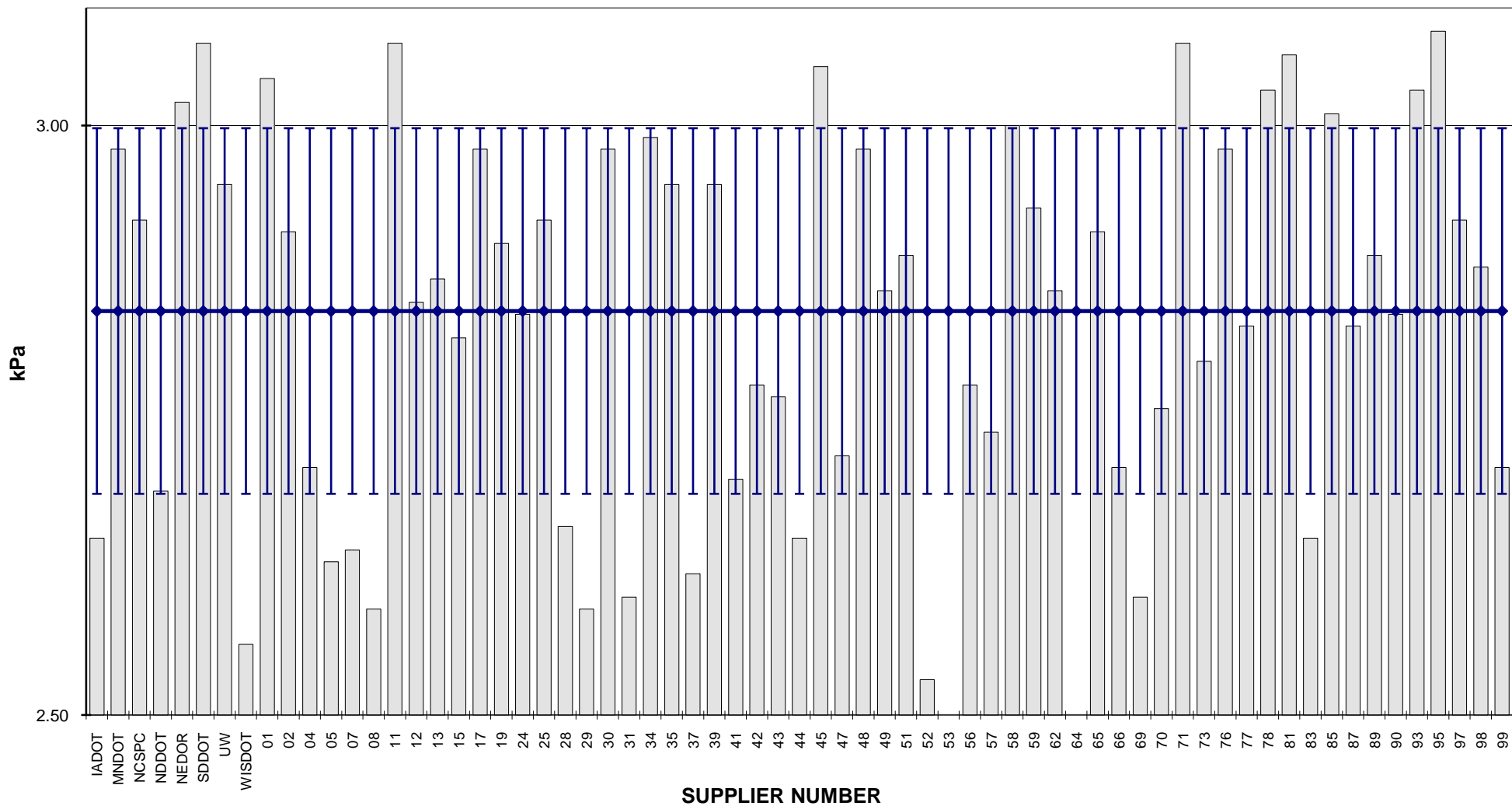
**COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
SUMMARY A
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DSR - ORIGINAL

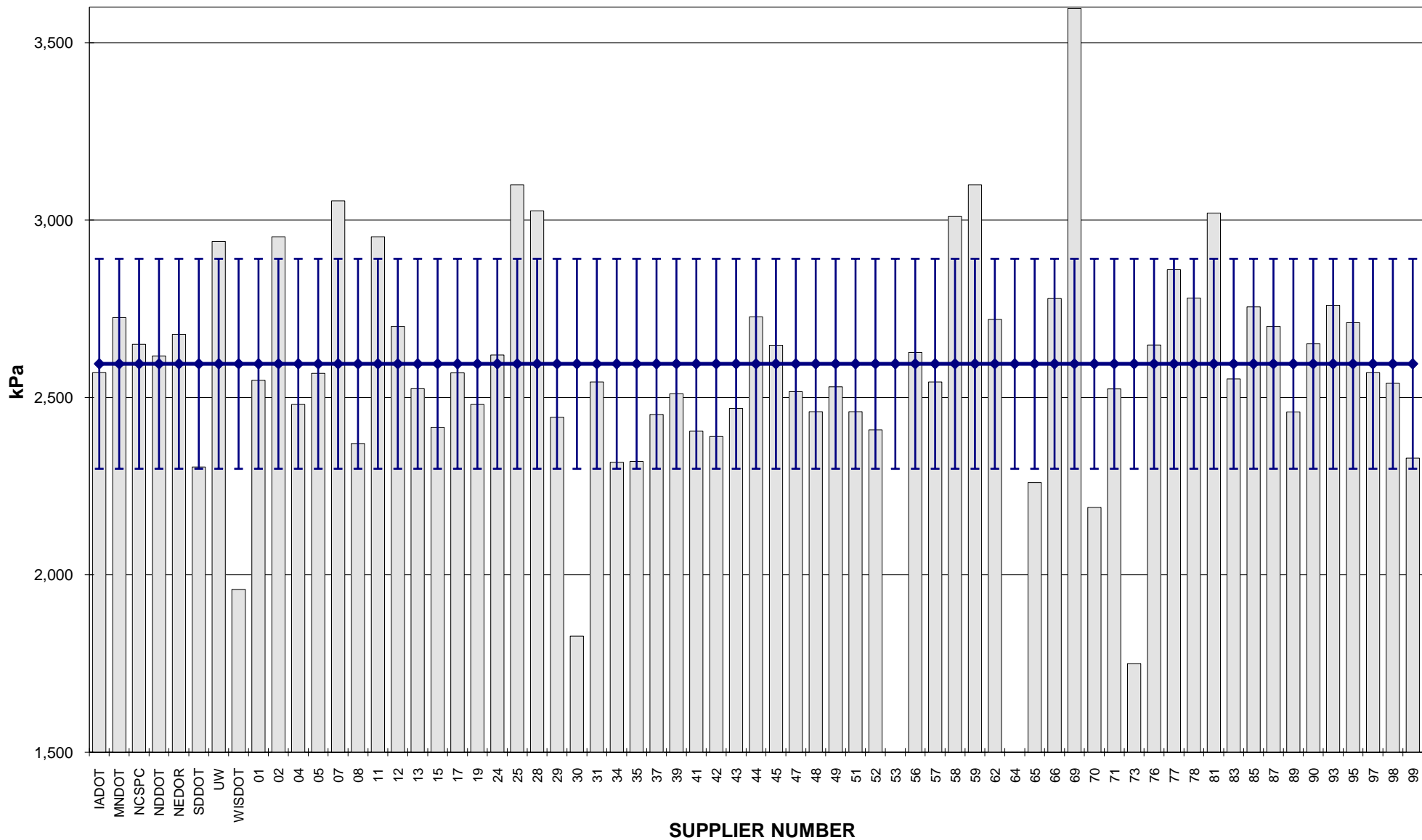


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DSR - RTFO



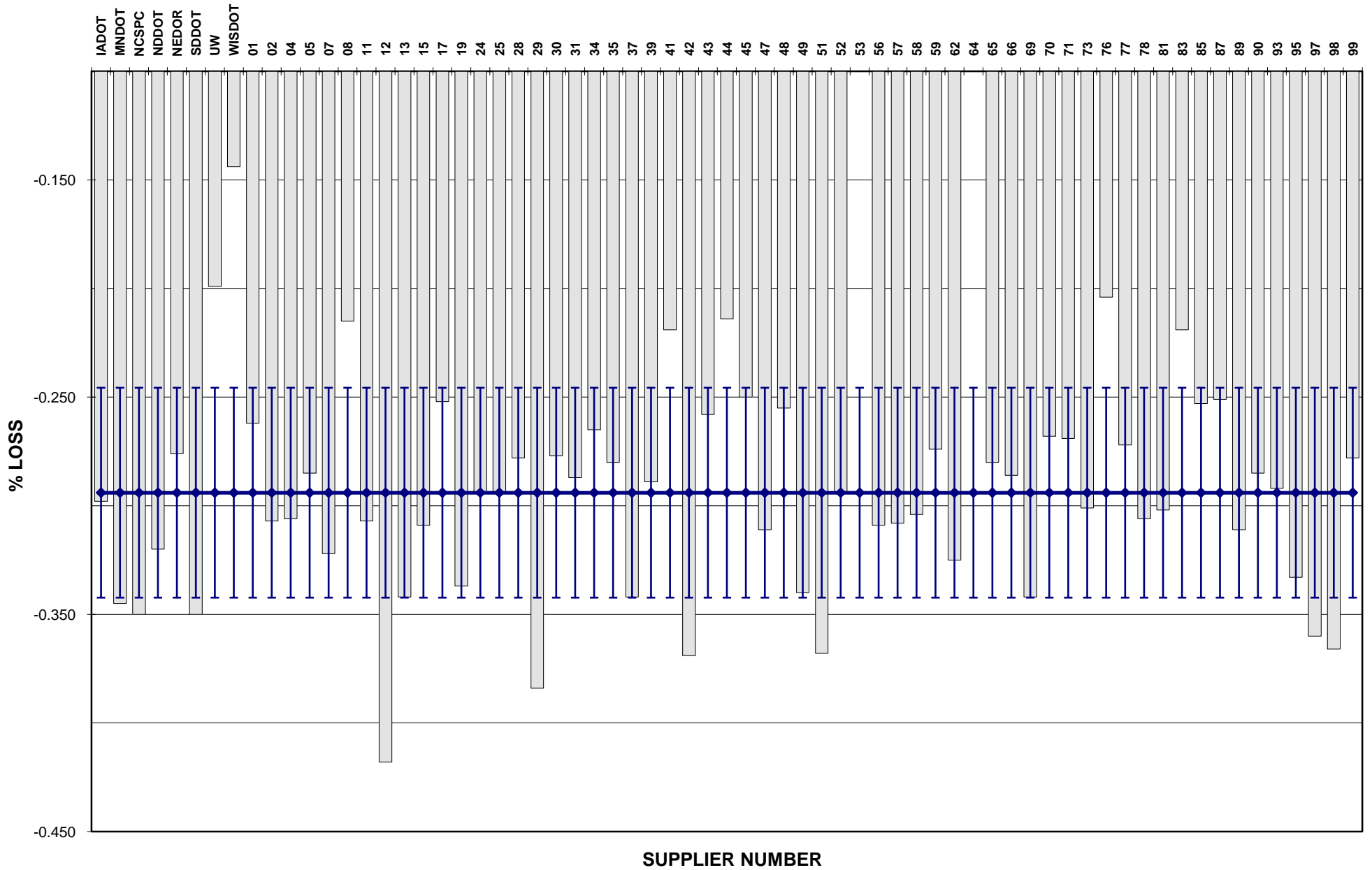
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DSR - PAV



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SUMMARY A

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RTFO MASS LOSS

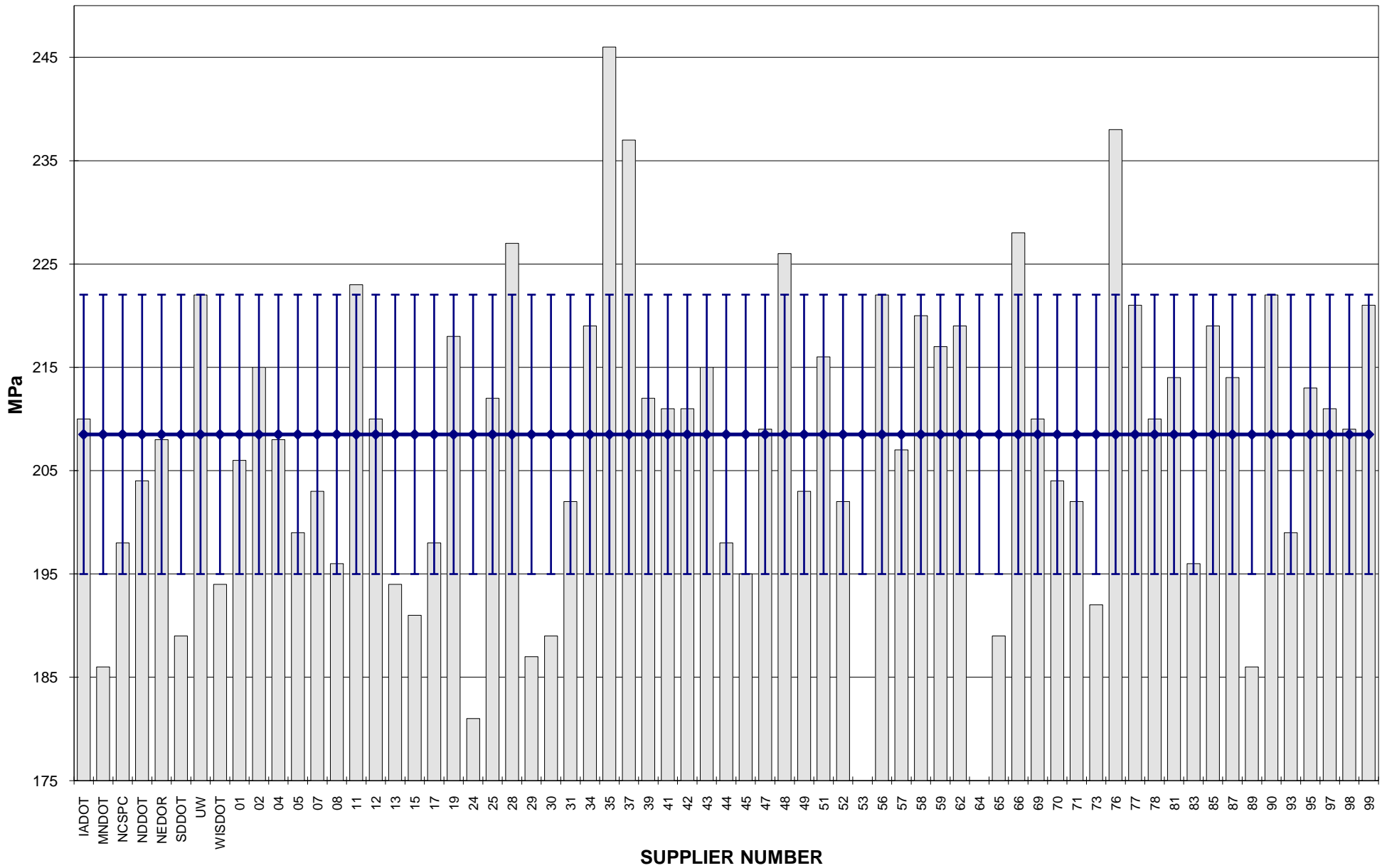


COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4

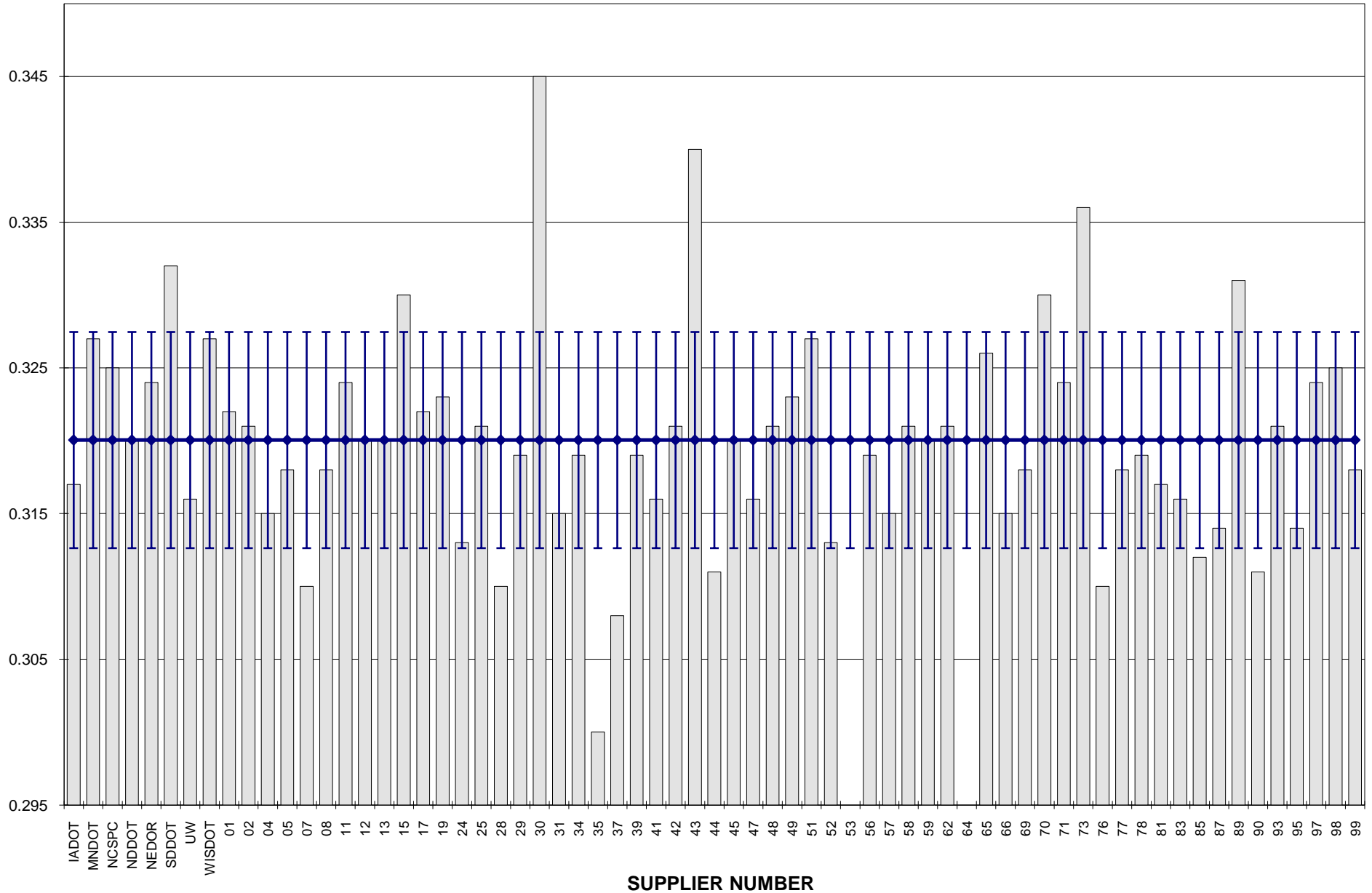
SUMMARY A

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BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
SUMMARY A
 PG 64-28
BBR m-VALUE



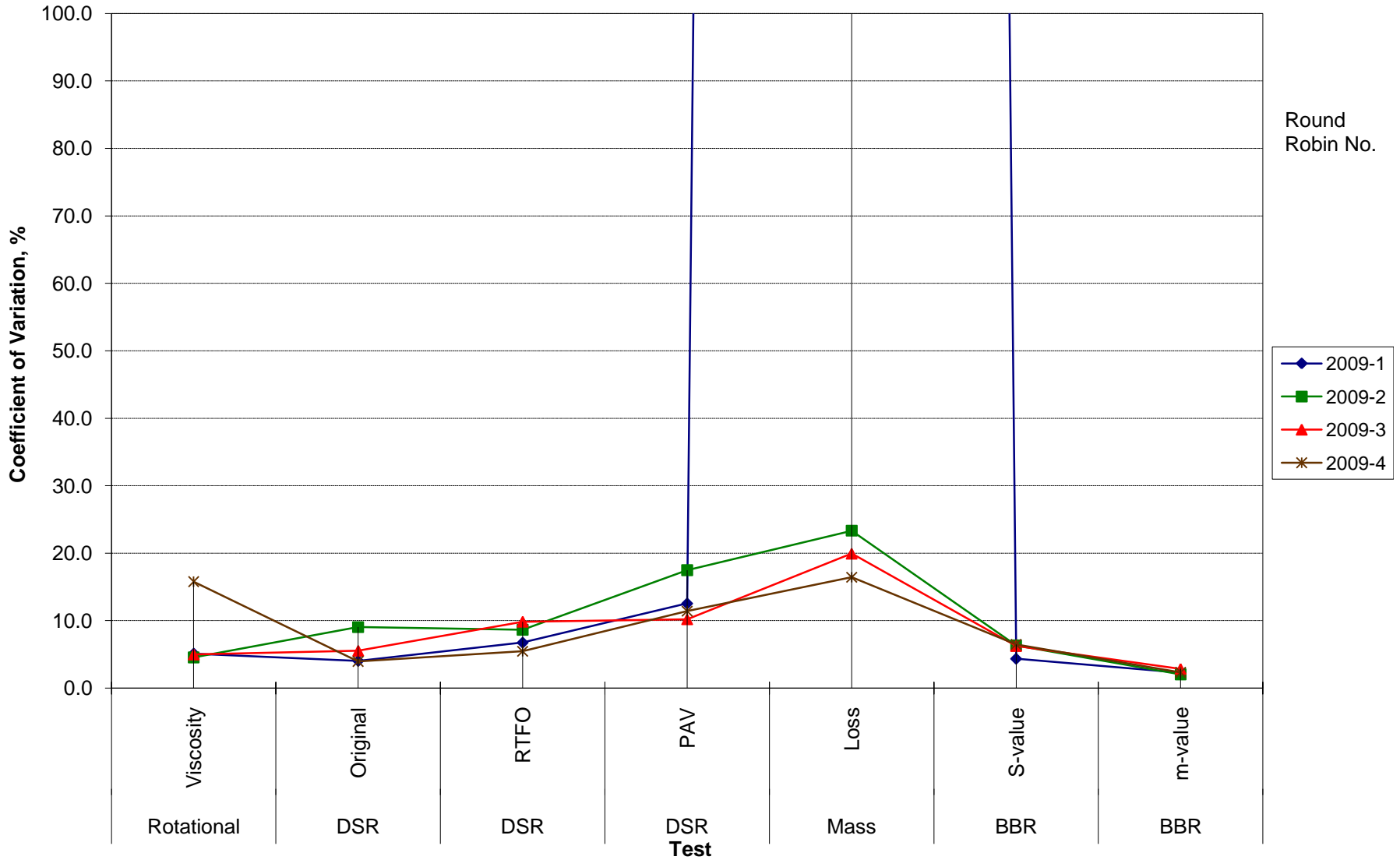
**COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
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COEFFICIENT OF VARIATION

Round Robin No.	Number of Participants	Coefficient of Variation, %							
		Rotational Viscosity	DSR Original	DSR RTFO	DSR PAV	Mass Loss	BBR S-value	BBR m-value	DTT Strain
2009-1	68	5.113	4.042	6.745	12.550	2336.716	4.356	2.292	6.988
2009-2	68	4.542	9.035	8.636	17.479	23.331	6.328	2.031	11.122
2009-3	68	4.973	5.526	9.847	10.209	19.936	6.241	2.833	78.105
2009-4	66	15.785	3.944	5.455	11.405	16.430	6.485	2.318	29.809

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COEFFICIENT OF VARIATION



**COMBINED STATE BINDER GROUP ROUND ROBIN 2009-4
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STATISTICS WITH OUTLIERS REMOVED:

	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @64°C	DSR RTFO (kPa) @64°C	DSR PAV (kPa) @25°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-12°C	BBR m-value @-12°C
Average	0.563	1.29	2.84	2,605	-0.296	209	0.320
Std. Dev.	0.0291	0.0508	0.1551	232.30	0.0448	13.52	0.0068
Coef. of Var.	5.168	3.944	5.455	8.918	15.119	6.485	2.119