



**Combined State Binder
Group**

Method of Acceptance for
Asphalt Binders

Round Robin 2006-1

Summary A

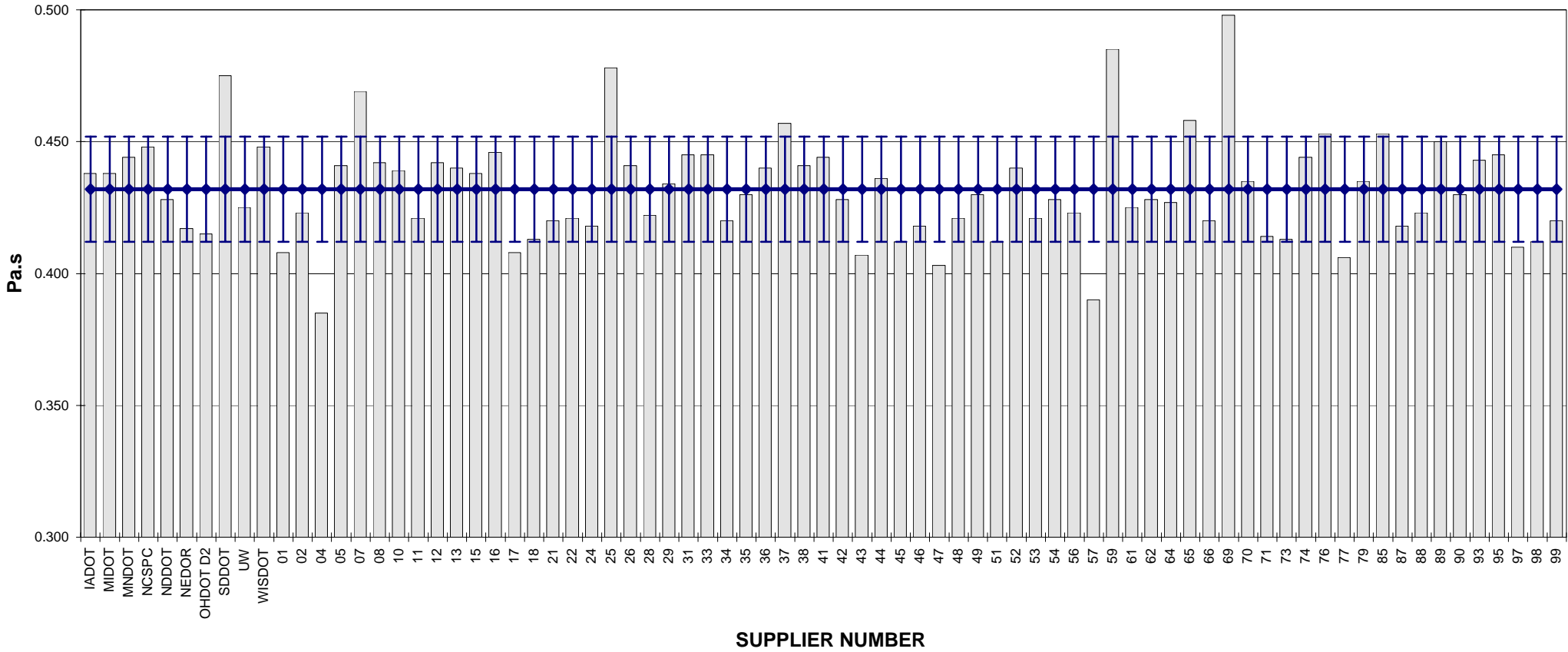
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	Phase Angle	DSR RTFO (kPa) @58°C	Elastic Recovery (%)	DSR PAV (kPa) @16°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-24°C	BBR m-value @-24°C	DTT Strain (%) @-24°C	DTT Stress (MPa) @-24°C	CRITICAL CRACK TEMP (°C)
IADOT	0.438	1.33	77.5	3.54	60.00	2,603	-1.001	311	0.311			
MIDOT	0.438	1.29	77.6	3.56	60.00	2,674	-0.869	279	0.339			
MNDOT	0.444	1.15	77.9	3.67		3,234	-0.844	277	0.322			
NCSPC	0.448	1.31	77.6	3.60		2,555	-0.933	290	0.314			
NDDOT	0.428	1.34	77.9	3.50	60.00	2,862	-0.842	297	0.321			
NEDOR	0.417	1.28	77.8	3.85	62.50	3,141	-0.982					
OHDOT D2	0.415	1.34	77.3	3.77	37.50	3,043	-1.275	334	0.300			
SDDOT	0.475	1.34	77.7	3.07	61.25	3,103	-0.914	236	0.341			
UW	0.425	1.36	77.4	4.11		3,040	-0.286					
WISDOT	0.448	1.29	77.7	3.33		2,888	-0.705	265	0.333	1.16	4.68	-34.8
01	0.408	1.27	77.6	3.52	56.25	3,234	-0.857	305	0.321			
02	0.423	1.30	77.5	2.92	58.80	2,674	-0.687	294	0.313			
04	0.385	1.99	77.8	3.28	40.00	2,560	-0.842	284	0.311			
05	0.441	1.36	77.9	3.41	60.00	2,787	-0.672	262	0.320			
07	0.469	1.33	78.0	3.35	59.80	3,204	-0.812	275	0.316			
08	0.442	1.35	77.8	3.53	58.75	2,689	-0.670	266	0.319			
10	0.439	1.32	77.4	3.43	58.75	2,518	-0.688	264	0.318			
11	0.421	1.30	77.7	3.23	59.40	2,690	-0.683	282	0.318			
12	0.442	1.30	78.0	3.36	55.00	2,769	-1.395	281	0.322			
13	0.440	1.23	77.7	3.41	58.75	2,854	-0.710	272	0.319			
15	0.438	1.31	78.1	3.55	58.50	2,939	-0.940	289	0.317			
16	0.446	1.09	77.6	3.71	65.00	3,297	-0.946	279	0.322			
17	0.408	1.27	77.6	3.46	56.25	3,275	-0.855	303	0.321			
18	0.413	1.33	77.8	3.84	55.00	2,895	-0.905	280	0.335			
21	0.420	1.32	77.9	3.43	59.50	2,816	-0.734	285	0.324			
22	0.421	1.33	77.8	2.88		2,136	-0.835	331	0.320			
24	0.418	1.35	77.7	3.50	58.00	2,475	-0.609	285	0.331	1.32	5.06	-35.1
25	0.478	1.28	78.0	3.68	58.00	3,801	-0.734	279	0.321			
26	0.441	1.35	77.9	3.57	60.00	2,651	-0.644	268	0.322			
28	0.422	1.27	78.0	3.51	58.80	2,707	-0.728	279	0.327			
29	0.434	1.33	77.7	3.83	62.50	3,313	-0.875	283	0.315			
31	0.445	1.29	77.9	3.46	60.00	2,704	-0.667	270	0.320			
33	0.445	1.26	77.7	3.33	60.00	2,726	-0.660	265	0.323			
34	0.420	1.30	77.5	3.25	58.80	2,734	-0.696	289	0.317			
35	0.430	1.22	77.6	3.17		2,650	-0.676	231	0.307			
36	0.440	1.33	77.5	3.58	60.42	2,764	-0.682	262	0.320			
37	0.457	1.28	78.0	3.38	59.00	3,584	-0.648	289	0.324	1.80	5.97	-35.1
38	0.441	1.27	77.4	3.37	60.00	2,487	-0.666	257	0.316			
41	0.444	1.36	77.7	3.54	58.75	2,594	-0.646	274	0.328			
42	0.428	1.34	75.4	3.65	60.00	3,188	-0.971	274	0.325			
43	0.407	1.36	77.1	3.46	54.00	2,952	-0.749	296	0.327			
44	0.436	1.30	77.3	3.36	61.25	2,596	-0.714	288	0.322			
45	0.412	1.25	77.6	3.36	55.00	3,199	-0.883	308	0.322			
46	0.418	1.28	78.0	3.51	55.00	3,345	-0.837	288	0.317			
47	0.403	1.30	78.1	3.24	40.00	2,638	-0.871	284	0.308			
48	0.421	1.31	77.5	3.28	59.40	2,763	-0.685	298	0.307			
49	0.430	1.34	77.8	3.16	55.00	3,042	-0.753	287	0.318			
51	0.412	1.23	77.7	3.38	55.00	3,145	-0.888	300	0.327			
52	0.440	1.29	77.6	3.49	61.25	2,458	-0.675	272	0.322			
53	0.421	1.28	79.8	3.64		3,378	-0.857	292	0.310			
54	0.428	1.30	77.7	3.69	60.00	2,976	-0.643	273	0.324			
56	0.423	1.24	77.5	3.33	58.50	2,739	-0.679	284	0.309			
57	0.390	1.30	77.9	3.26	40.00	2,622	-0.841	281	0.318	1.58	5.09	
59	0.485	1.23	78.0	3.61	58.00	3,419	-0.779	285	0.318			
61	0.425	1.33	77.0	4.07	55.00	3,064	-0.941	279	0.328			
62	0.428	1.31	77.4	3.41	58.50	2,766	-0.696	287	0.310			
64	0.427	1.34	78.1	3.73		3,169	-0.947	290	0.318			
65	0.458	1.26	77.5	3.33		2,750	-0.851	278	0.306			
66	0.420	1.29	77.7	3.47	59.30	2,822	-0.735	285	0.321			
69	0.498	1.30	78.0	3.35	60.00	3,571	-0.934	278	0.316	1.43	5.62	-36.9
70	0.435	1.32	77.7	3.48		2,425	-0.800	254	0.325			
71	0.414	1.35	78.0	3.71		2,780	-0.769	299	0.321			
73	0.413	1.33	78.0	3.73		2,390	-0.807	308	0.327			
74	0.444	1.27	77.3	3.42	60.00	2,540	-0.753	276	0.321			
76	0.453	1.28	77.8	3.78	58.75	2,482	-0.766	248	0.333			
77	0.406	1.39	77.3	3.95	55.00	3,235	-0.842	280	0.312			
79	0.435	1.34	77.6	3.84	58.00	3,039	-0.935	282	0.334			
85	0.453	1.34	77.4	4.14	60.00	2,429	-0.785	261	0.334			
87	0.418	1.31	77.9	3.71	56.25	2,843	-0.818	268	0.330			
88	0.423	1.30	78.0	3.76	58.00	2,990	-0.730	292	0.324			
89	0.450	1.32	78.0	3.63	58.50	2,998	-0.967	293	0.311			
90	0.430	1.27	78.1	3.63	58.80	2,743	-0.770	285	0.325			
93	0.443	1.30	77.7	3.46	60.00	2,399	-0.697	261	0.322			
95	0.445	1.30	78.0	4.03	58.80	2,658	-0.720	287	0.329			
97	0.410	1.21	77.6	3.34	55.00	3,178	-0.829	303	0.321			
98	0.412	1.22	77.6	3.44	56.25	3,287	-0.836	303	0.322			
99	0.420	1.31	78.0	3.67	59.40	2,709	-0.751	287	0.323			
Average	0.432	1.31	77.7	3.52	57.43	2,875	-0.796	282	0.321	1.46	5.28	-35.5
Std. Dev.	0.020	0.09	0.43	0.24	5.13	324	0.146	18	0.008	0.25	0.51	0.96
Coef. of Var.	4.623	7.087	0.559	6.959	8.933	11.263	18.345	6.202	2.421	16.910	9.63	-2.71

COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A

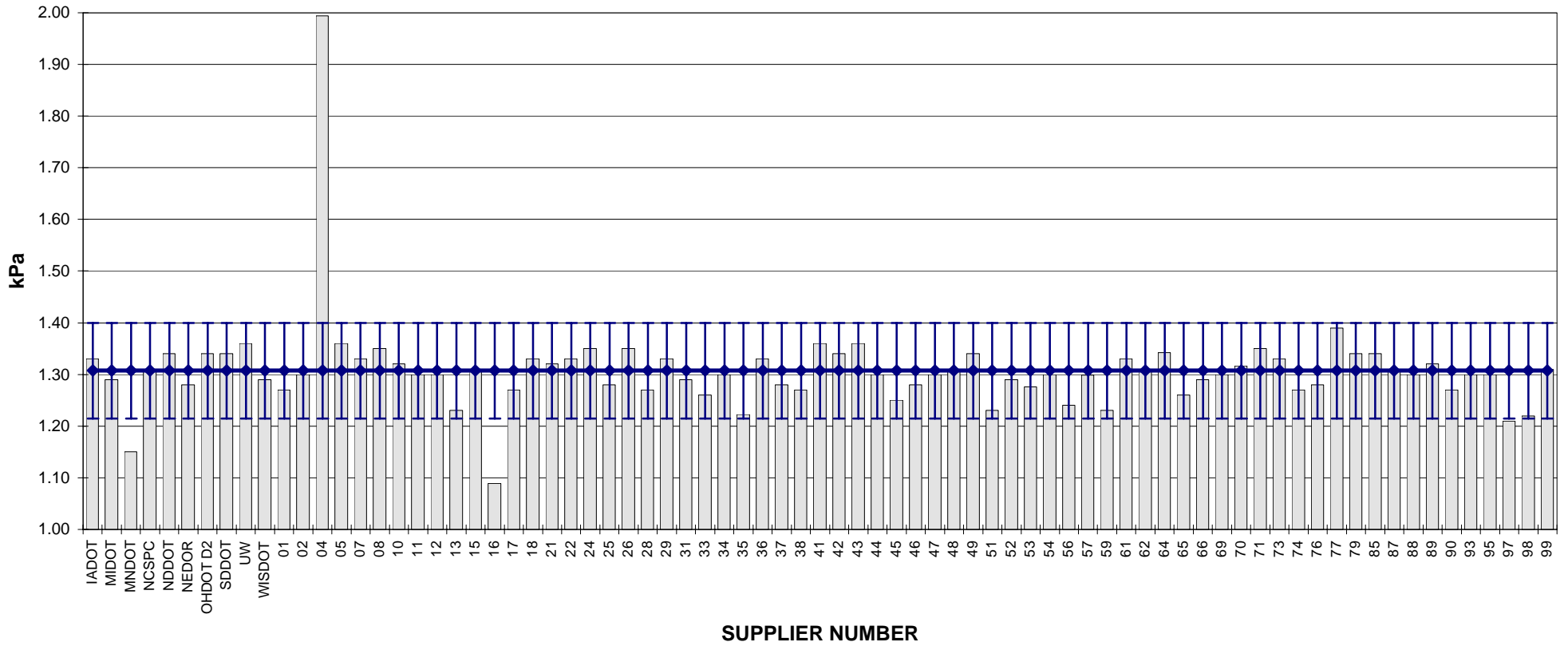
PG 58-34

ROTATIONAL VISCOSITY



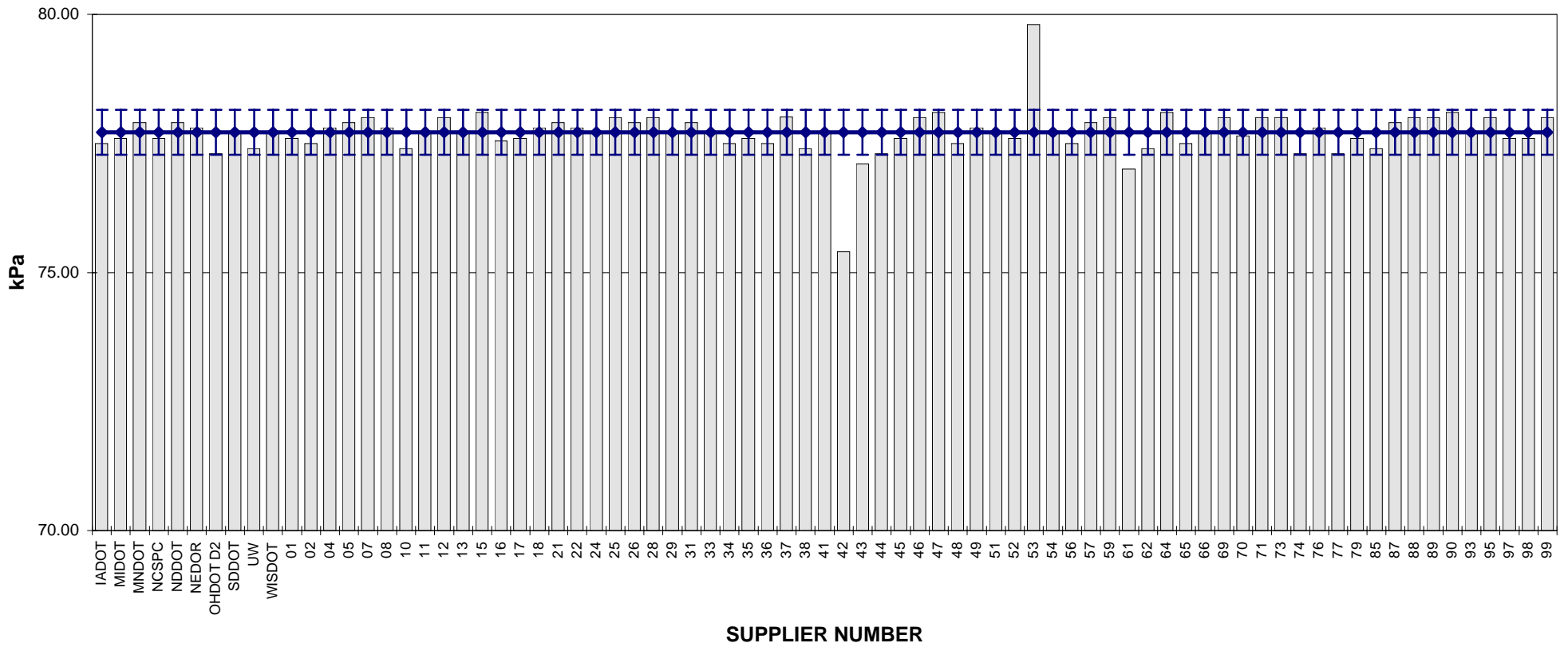
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
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DSR - ORIGINAL



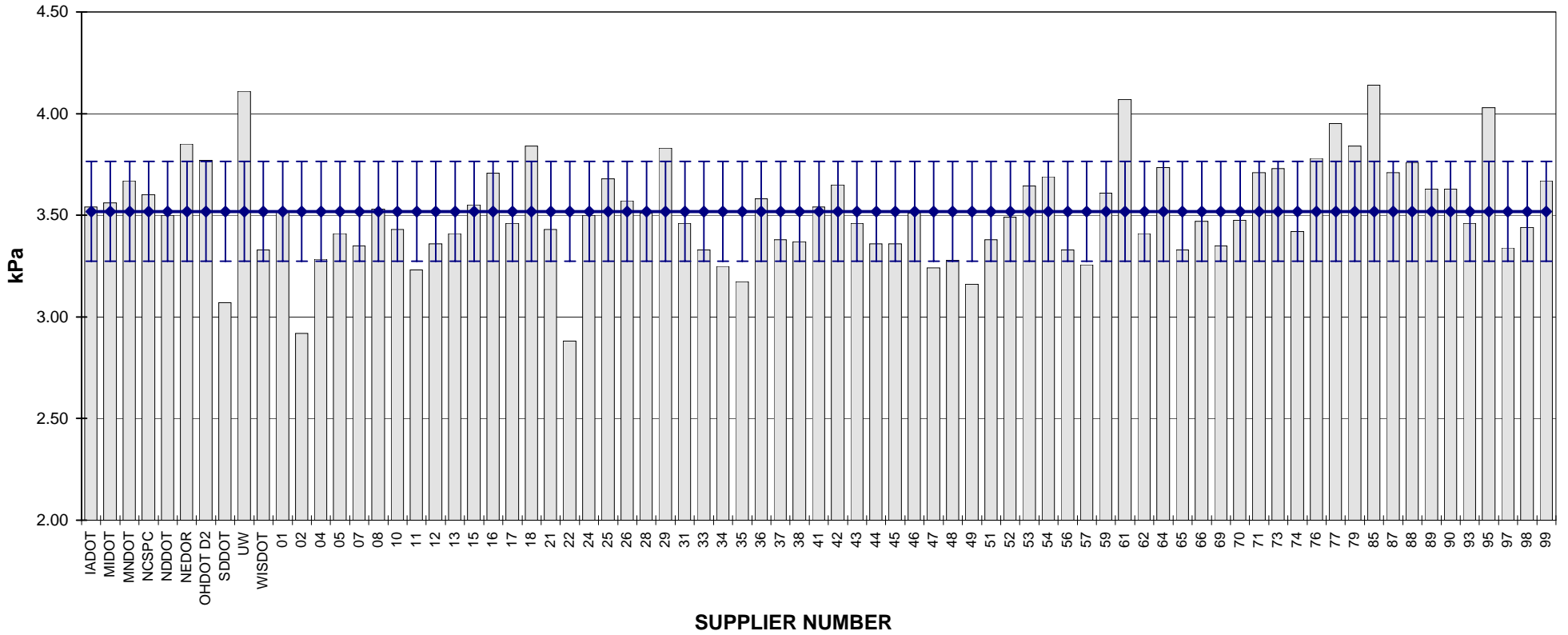
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34

DSR - PHASE ANGLE



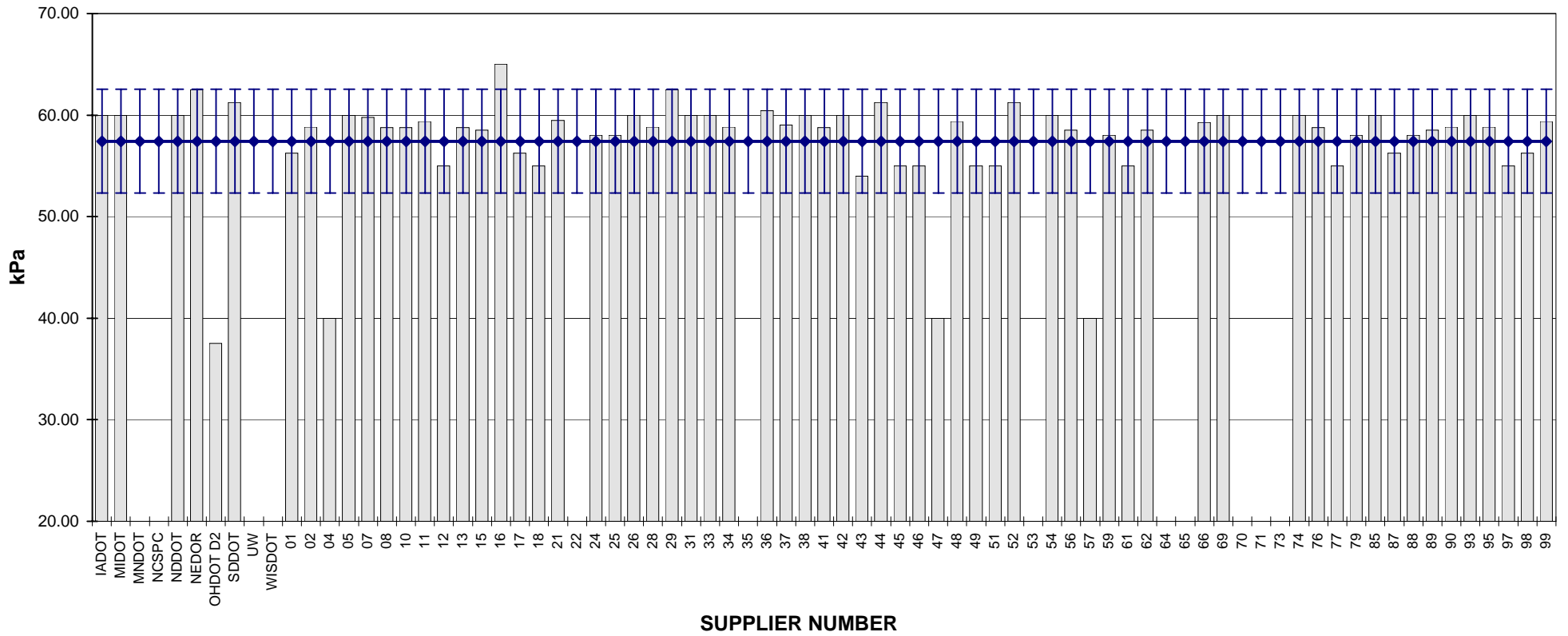
**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34**

DSR - RTFO

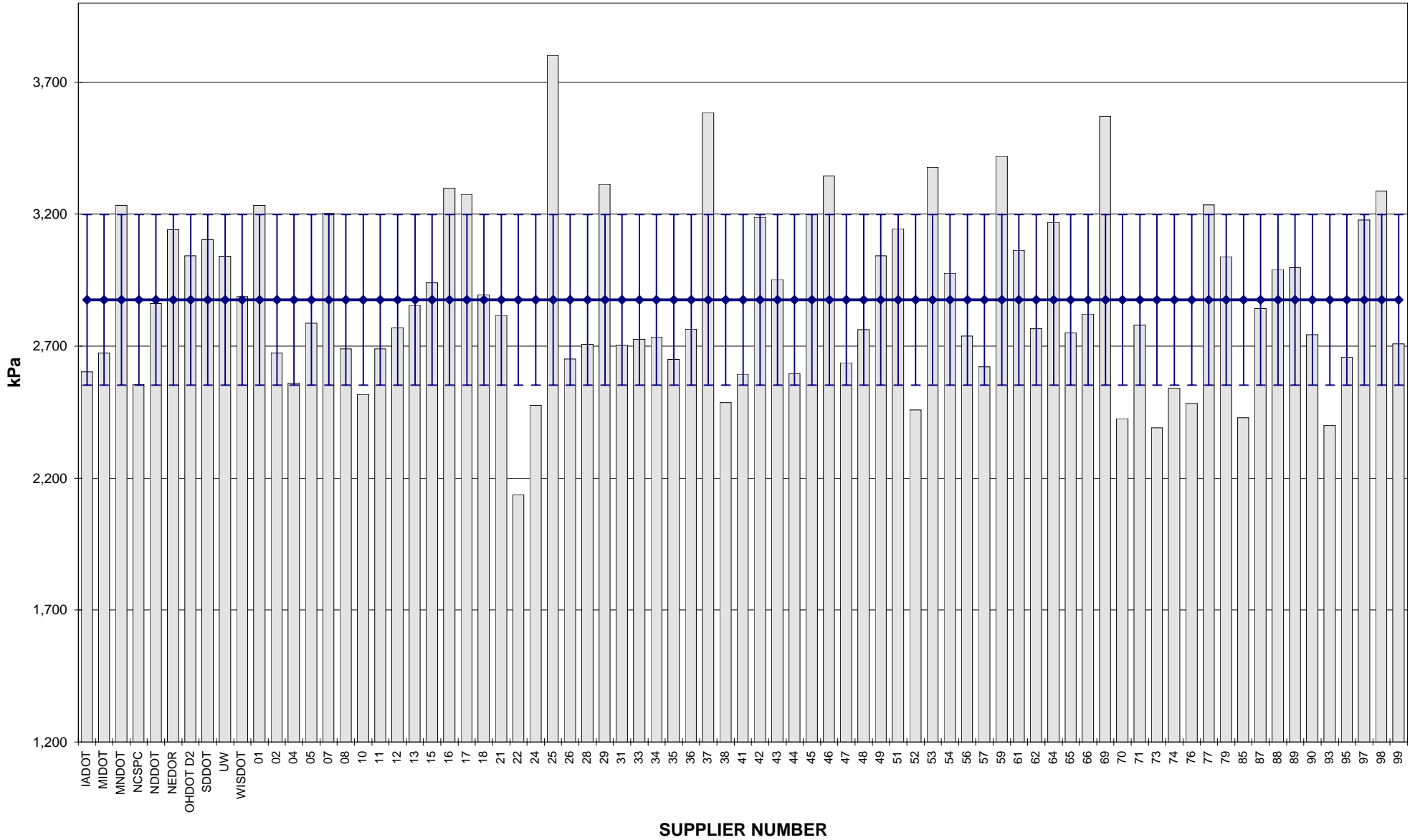


**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34**

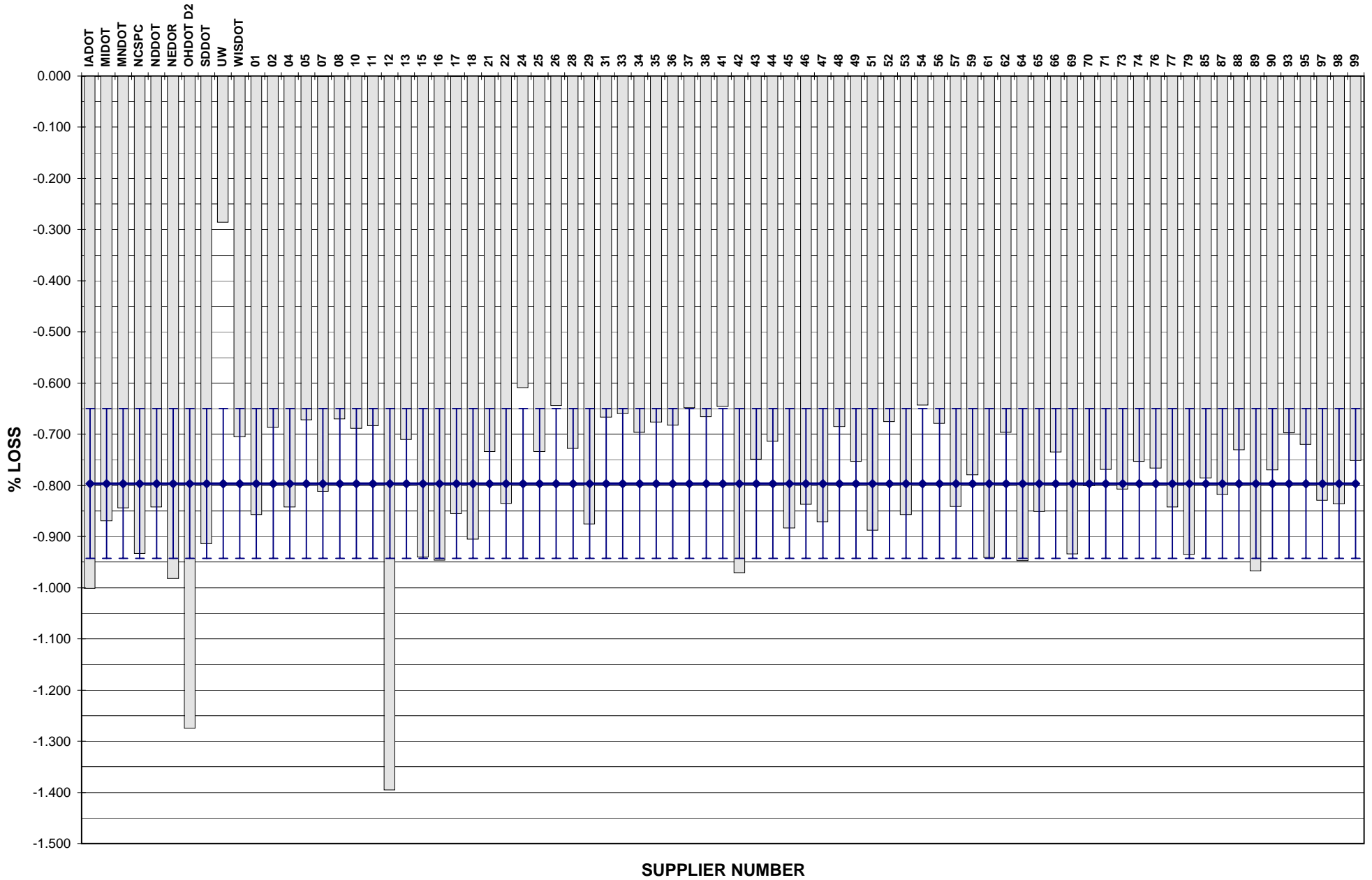
ELASTIC RECOVERY



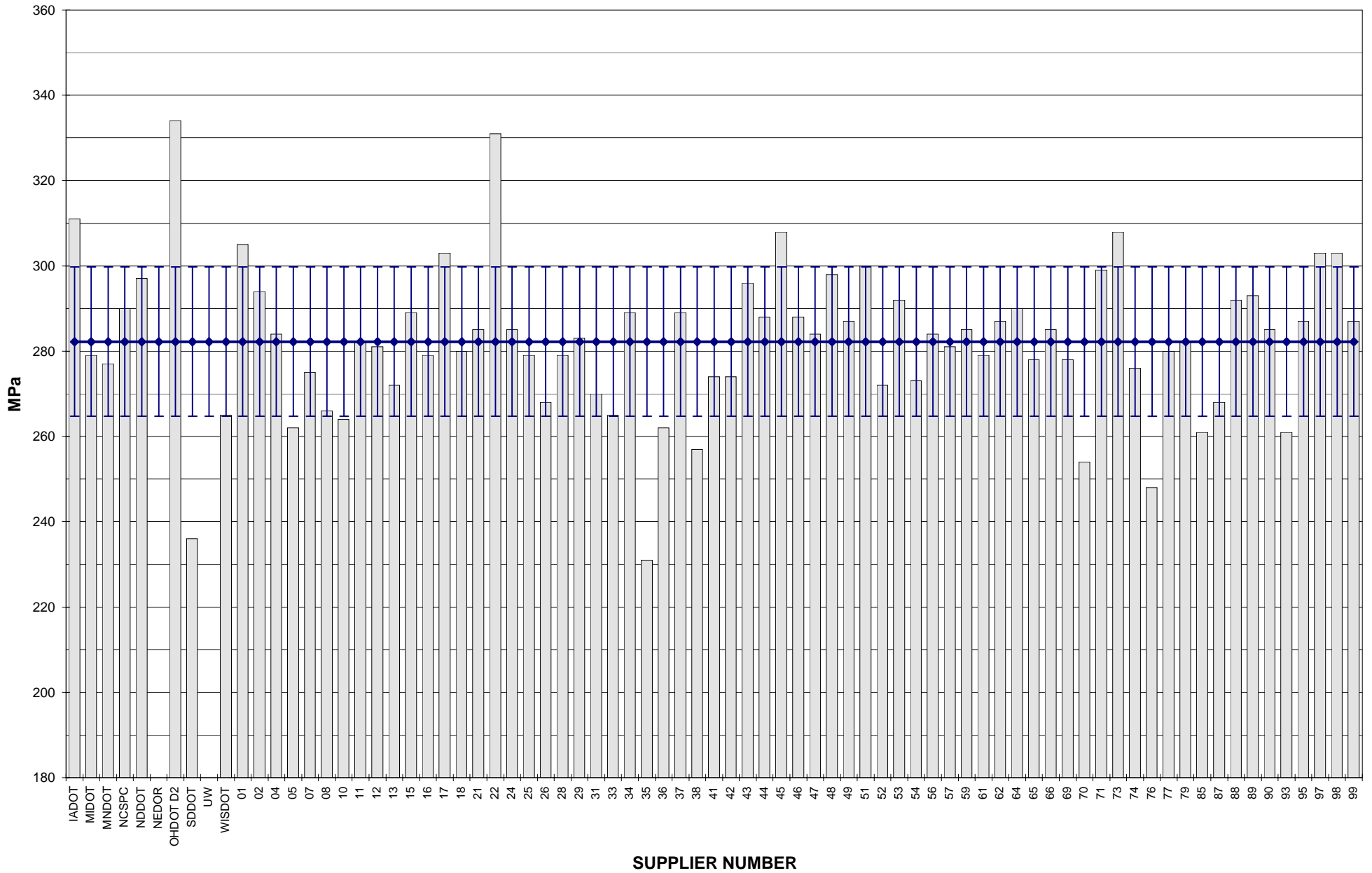
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
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DSR - PAV



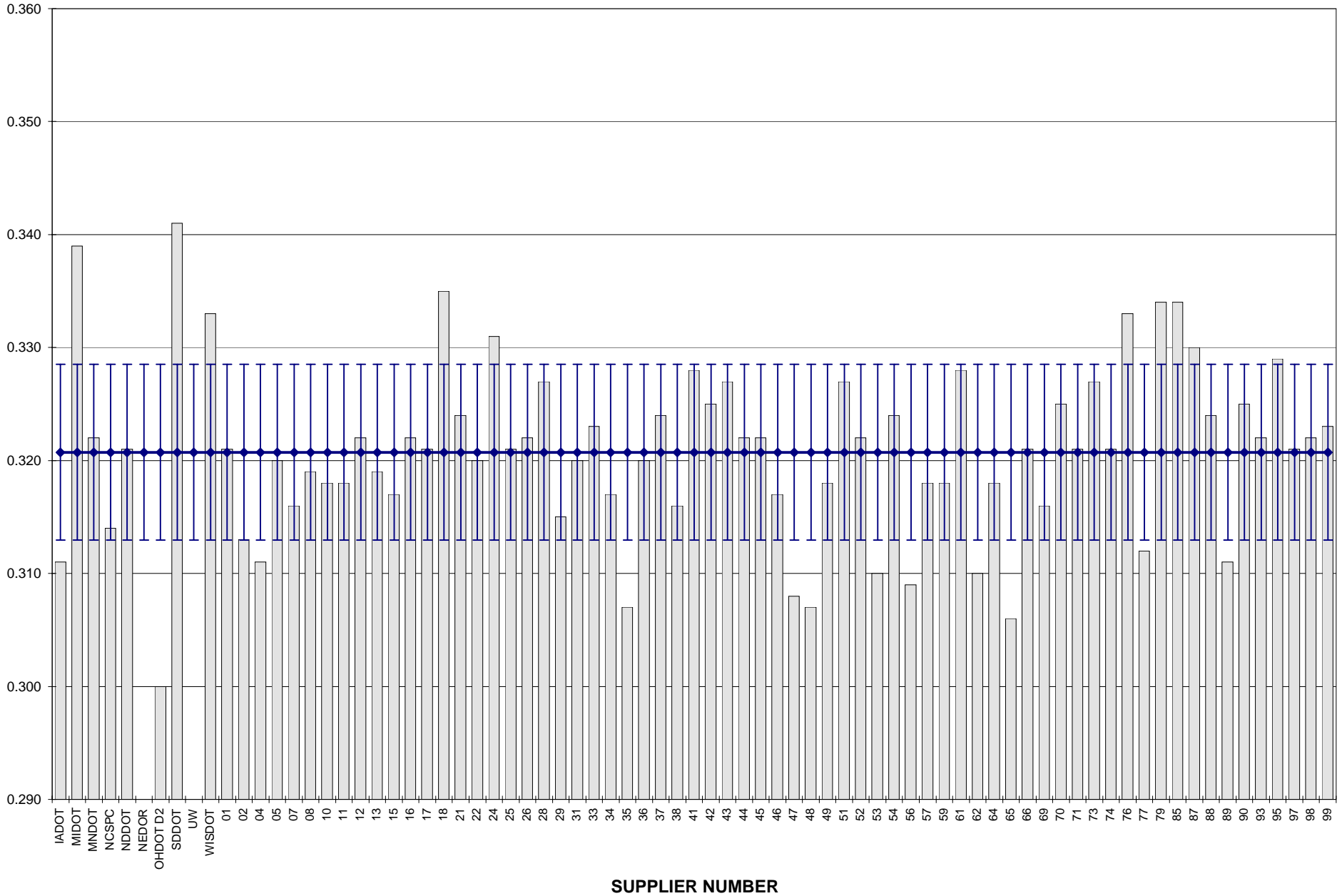
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
 SUMMARY A
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RTFO MASS LOSS



COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34
BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34
BBR m-VALUE



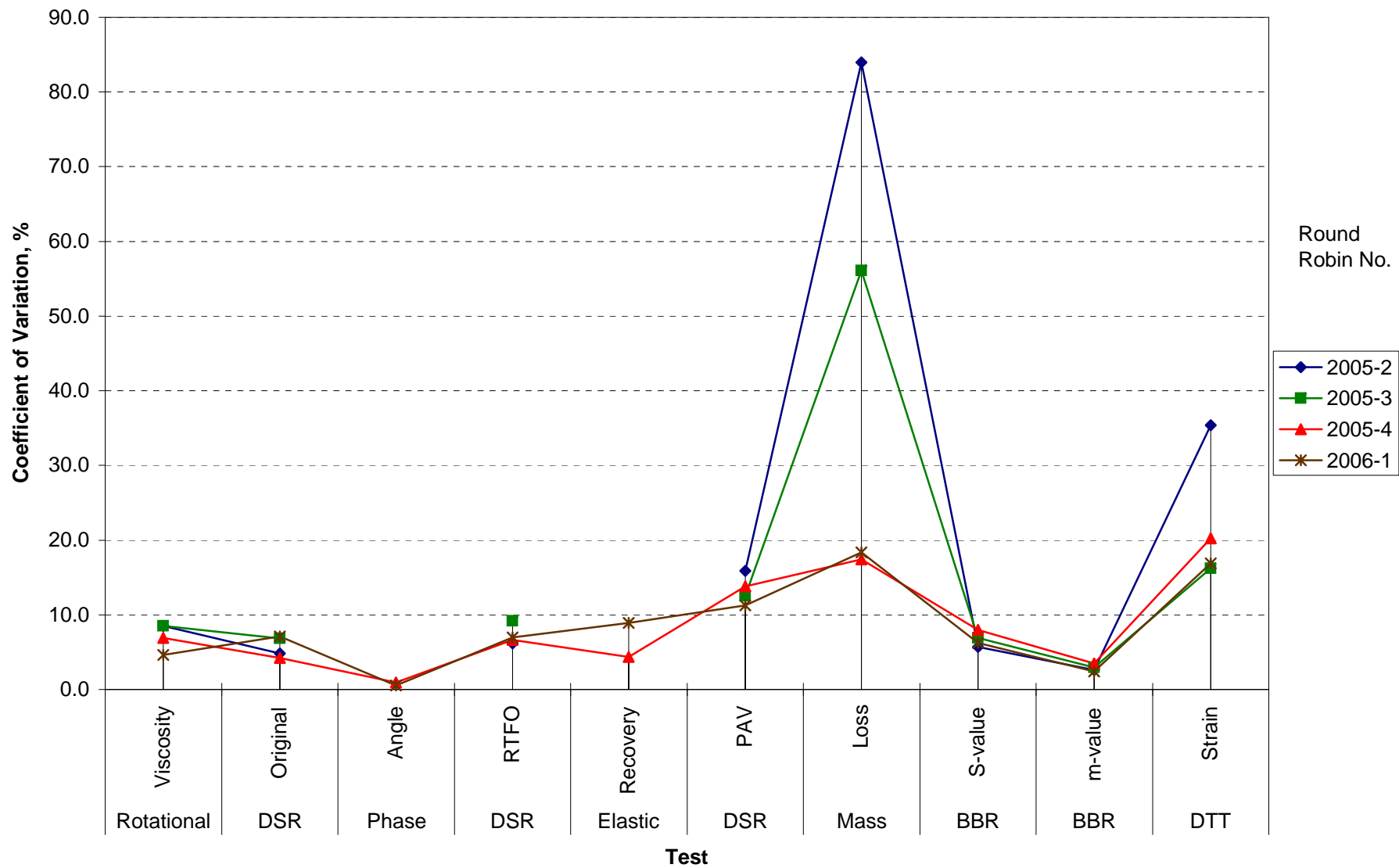
**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A**

COEFFICIENT OF VARIATION

Round Robin No.	Number of Participants	Coefficient of Variation, %									
		Rotational Viscosity	DSR Original	Phase Angle	DSR RTFO	Elastic Recovery	DSR PAV	Mass Loss	BBR S-value	BBR m-value	DTT Strain
2005-2	77	8.535	4.800		6.182		15.892	83.971	5.683	2.597	35.372
2005-3	78	8.518	6.818		9.166		12.533	56.096	6.908	2.933	16.213
2005-4	78	6.893	4.191	0.958	6.616	4.333	13.815	17.441	7.971	3.495	20.270
2006-1	77	4.623	7.087	0.559	6.959	8.933	11.263	18.345	6.202	2.421	16.910

**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A**

COEFFICIENT OF VARIATION



**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY A
PG 58-34**

STATISTICS WITH OUTLIERS REMOVED:

	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	Phase Angle	DSR RTFO (kPa) @58°C	Elastic Recovery (%)	DSR PAV (kPa) @16°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-24°C	BBR m-value @-24°C
Average	0.4311	1.3031	77.7148	3.5193	58.6184	2,875.29	-0.7887	282.21	0.3207
Std. Dev.	0.0186	0.0383	0.2500	0.2449	2.1986	323.84	0.1027	17.50	0.0078
Coef. of Var.	4.310	2.938	0.322	6.959	3.751	11.263	13.020	6.202	2.421