



**Combined State Binder
Group**

Method of Acceptance for
Asphalt Binders

Round Robin 2006-1

Summary B

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

PG 58-34

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	DSR 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
IADOT	0.438	1.33	77.5	3.54	60	2,603	-1.001	311	0.311
MIDOT	0.438	1.29	77.6	3.56	60	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	2,862	-0.842	297	0.321
NEDOR	0.417	1.28	77.8	3.85	63	3,141	-0.982		
OHDOT D2	0.415	1.34	77.3	3.77	38	3,043	-1.275	334	0.300
SDDOT	0.475	1.34	77.7	3.07	61	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
A	0.410	1.24	77.6	3.42	56	3,220	-0.858	304	0.322
C	0.422	1.29	77.94	3.54	59	2,759	-0.744	284	0.324
E	0.444	1.32	78.1	3.59	59	2,969	-0.954	291	0.314
F	0.423	1.29	77.5	3.24	59	2,728	-0.688	289	0.312
J	0.442	1.31	77.6	3.45	60	2,626	-0.682	268	0.321
L	0.482	1.26	78.0	3.65	58	3,610	-0.757	282	0.320
M	0.393	1.53	77.9	3.26	40	2,607	-0.851	283	0.312
O	0.453	1.31	77.6	3.96	59	2,456	-0.776	255	0.334
P	0.414	1.34	78.0	3.72		2,585	-0.788	304	0.324
S	0.424	1.31	79.0	3.69		3,274	-0.902	291	0.314
T	0.423	1.30	77.9	3.72	58	2,936	-0.730	278	0.326
07	0.469	1.33	78.0	3.35	60	3,204	-0.812	275	0.316
12	0.442	1.30	78.0	3.36	55	2,769	-1.395	281	0.322
16	0.446	1.09	77.6	3.71	65	3,297	-0.946	279	0.322
18	0.413	1.33	77.8	3.84	55	2,895	-0.905	280	0.335
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	2,475	-0.609	285	0.331
29	0.434	1.33	77.7	3.83	63	3,313	-0.875	283	0.315
35	0.430	1.22	77.6	3.17		2,650	-0.676	231	0.307
37	0.457	1.28	78.0	3.38	59	3,584	-0.648	289	0.324
42	0.428	1.34	75.4	3.65	60	3,188	-0.971	274	0.325
43	0.407	1.36	77.1	3.46	54	2,952	-0.749	296	0.327
46	0.418	1.28	78.0	3.51	55	3,345	-0.837	288	0.317
49	0.430	1.34	77.8	3.16	55	3,042	-0.753	287	0.318
61	0.425	1.33	77.0	4.07	55	3,064	-0.941	279	0.328
65	0.458	1.26	77.5	3.33		2,750	-0.851	278	0.306
69	0.498	1.30	78.0	3.35	60	3,571	-0.934	278	0.316
70	0.435	1.32	77.7	3.48		2,425	-0.800	254	0.325
77	0.406	1.39	77.3	3.95	55	3,235	-0.842	280	0.312
79	0.435	1.34	77.6	3.84	58	3,039	-0.935	282	0.334
95	0.445	1.30	78.0	4.03	59	2,658	-0.720	287	0.329
Average	0.43	1.31	77.68	3.56	57.22	2,939	-0.839	283	0.321
Std. Dev.	0.0215	0.0646	0.4850	0.2786	5.5790	341.26	0.1729	19.63	0.0091
Coef. of Var.	4.941	4.941	0.624	7.820	9.750	11.611	20.600	6.940	2.845

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A	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
01	0.408	1.27	77.6	3.52	56	3,234	-0.857	305	0.321
17	0.408	1.27	77.6	3.46	56	3,275	-0.855	303	0.321
45	0.412	1.25	77.6	3.36	55	3,199	-0.883	308	0.322
51	0.412	1.23	77.7	3.38	55	3,145	-0.888	300	0.327
97	0.410	1.21	77.6	3.34	55	3,178	-0.829	303	0.321
98	0.412	1.22	77.6	3.44	56	3,287	-0.836	303	0.322
Average	0.410	1.24	77.6	3.42	56	3,220	-0.858	304	0.322

C	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
21	0.420	1.32	77.9	3.43	60	2,816	-0.734	285	0.324
28	0.422	1.27	78.0	3.51	59	2,707	-0.728	279	0.327
66	0.420	1.29	77.7	3.47	59	2,822	-0.735	285	0.321
90	0.430	1.27	78.1	3.63	59	2,743	-0.770	285	0.325
99	0.420	1.31	78.0	3.67	59	2,709	-0.751	287	0.323
Average	0.422	1.29	77.9	3.54	59	2,759	-0.744	284	0.324

E	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
15	0.438	1.31	78.1	3.55	59	2,939	-0.940	289	0.317
89	0.450	1.32	78.0	3.63	59	2,998	-0.967	293	0.311
Average	0.444	1.32	78.1	3.59	59	2,969	-0.954	291	0.314

F	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
02	0.423	1.30	77.5	2.92	59	2,674	-0.687	294	0.313
11	0.421	1.30	77.7	3.23	59	2,690	-0.683	282	0.318
34	0.420	1.30	77.5	3.25	59	2,734	-0.696	289	0.317
48	0.421	1.31	77.5	3.28	59	2,763	-0.685	298	0.307
56	0.423	1.24	77.5	3.33	59	2,739	-0.679	284	0.309
62	0.428	1.31	77.4	3.41	59	2,766	-0.696	287	0.310
Average	0.423	1.29	77.5	3.24	59	2,728	-0.688	289	0.312

J	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
05	0.441	1.36	77.9	3.41	60	2,787	-0.672	262	0.320
08	0.442	1.35	77.8	3.53	59	2,689	-0.670	266	0.319
10	0.439	1.32	77.4	3.43	59	2,518	-0.688	264	0.318
13	0.440	1.23	77.7	3.41	59	2,854	-0.710	272	0.319
26	0.441	1.35	77.9	3.57	60	2,651	-0.644	268	0.322
31	0.445	1.29	77.9	3.46	60	2,704	-0.667	270	0.320
33	0.445	1.26	77.7	3.33	60	2,726	-0.660	265	0.323
36	0.440	1.33	77.5	3.58	60	2,764	-0.682	262	0.320
38	0.441	1.27	77.4	3.37	60	2,487	-0.666	257	0.316
41	0.444	1.36	77.7	3.54	59	2,594	-0.646	274	0.328
44	0.436	1.30	77.3	3.36	61	2,596	-0.714	288	0.322
52	0.440	1.29	77.6	3.49	61	2,458	-0.675	272	0.322
74	0.444	1.27	77.3	3.42	60	2,540	-0.753	276	0.321
93	0.443	1.30	77.7	3.46	60	2,399	-0.697	261	0.322
Average	0.442	1.31	77.6	3.45	59.9	2,626	-0.682	268	0.321

L	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
25	0.478	1.28	78.0	3.68	58	3,801	-0.734	279	0.321
59	0.485	1.23	78.0	3.61	58	3,419	-0.779	285	0.318
Average	0.482	1.26	78.0	3.65	58	3,610	-0.757	282	0.320

M	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
04	0.385	1.99	77.8	3.28	40	2,560	-0.842	284	0.311
47	0.403	1.30	78.1	3.24	40	2,638	-0.871	284	0.308
57	0.390	1.30	77.9	3.26	40	2,622	-0.841	281	0.318
Average	0.393	1.53	77.9	3.26	40	2,607	-0.851	283	0.312

O	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
76	0.453	1.28	77.8	3.78	59	2,482	-0.766	248	0.333
85	0.453	1.34	77.4	4.14	60	2,429	-0.785	261	0.334
Average	0.453	1.31	77.6	3.96	59	2,456	-0.776	255	0.334

P	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
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
Average	0.414	1.34	78.0	3.72		2,585	-0.788	304	0.324

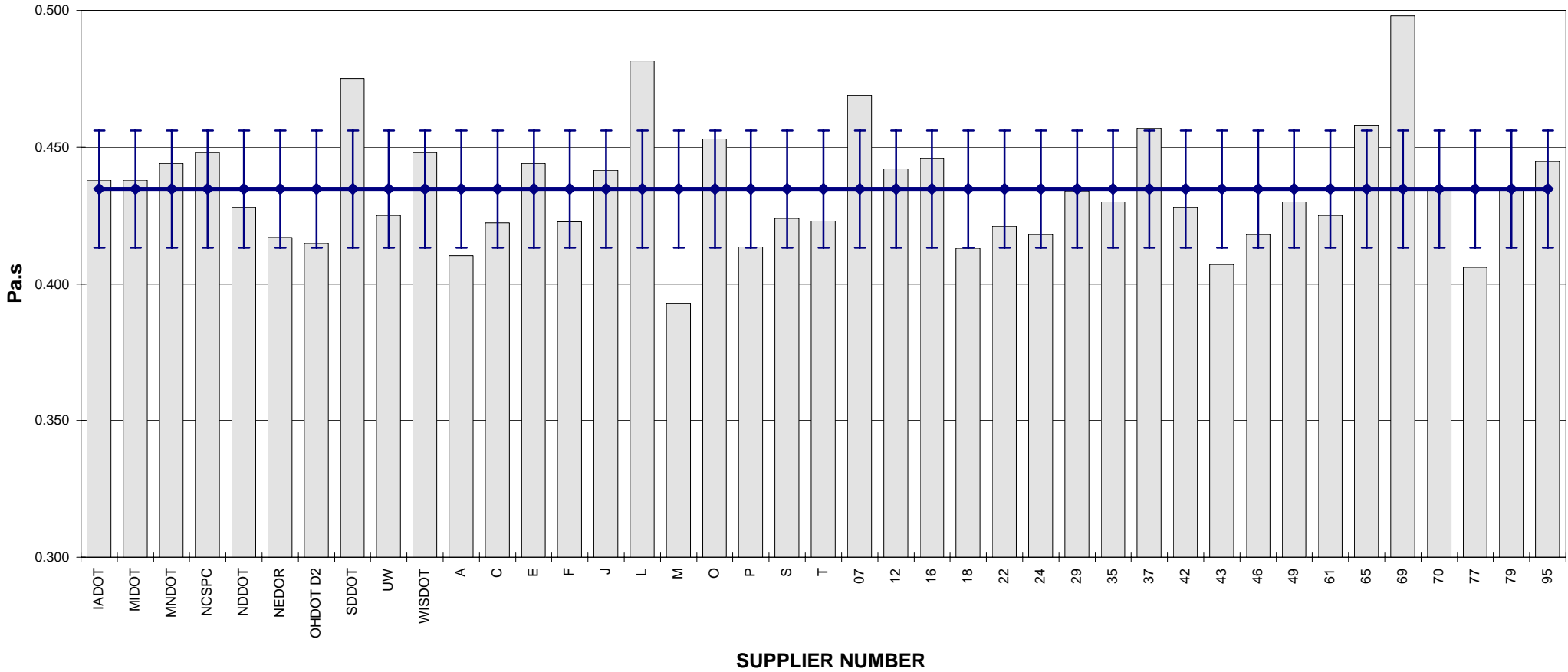
S	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
53	0.421	1.28	79.8	3.64		3,378	-0.857	292	0.310
64	0.427	1.34	78.1	3.73		3,169	-0.947	290	0.318
Average	0.424	1.31	79.0	3.69		3,274	-0.902	291	0.314

T	Rot. Visc.	ODSR	Phase An	RTFO DSR	Elas Rec	PAVDSR	Mass Loss	S-value	m-value
54	0.428	1.30	77.7	3.69	60	2,976	-0.643	273	0.324
87	0.418	1.31	77.9	3.71	56	2,843	-0.818	268	0.330
88	0.423	1.30	78.0	3.76	58	2,990	-0.730	292	0.324
Average	0.423	1.30	77.9	3.72	58	2,936	-0.730	278	0.326

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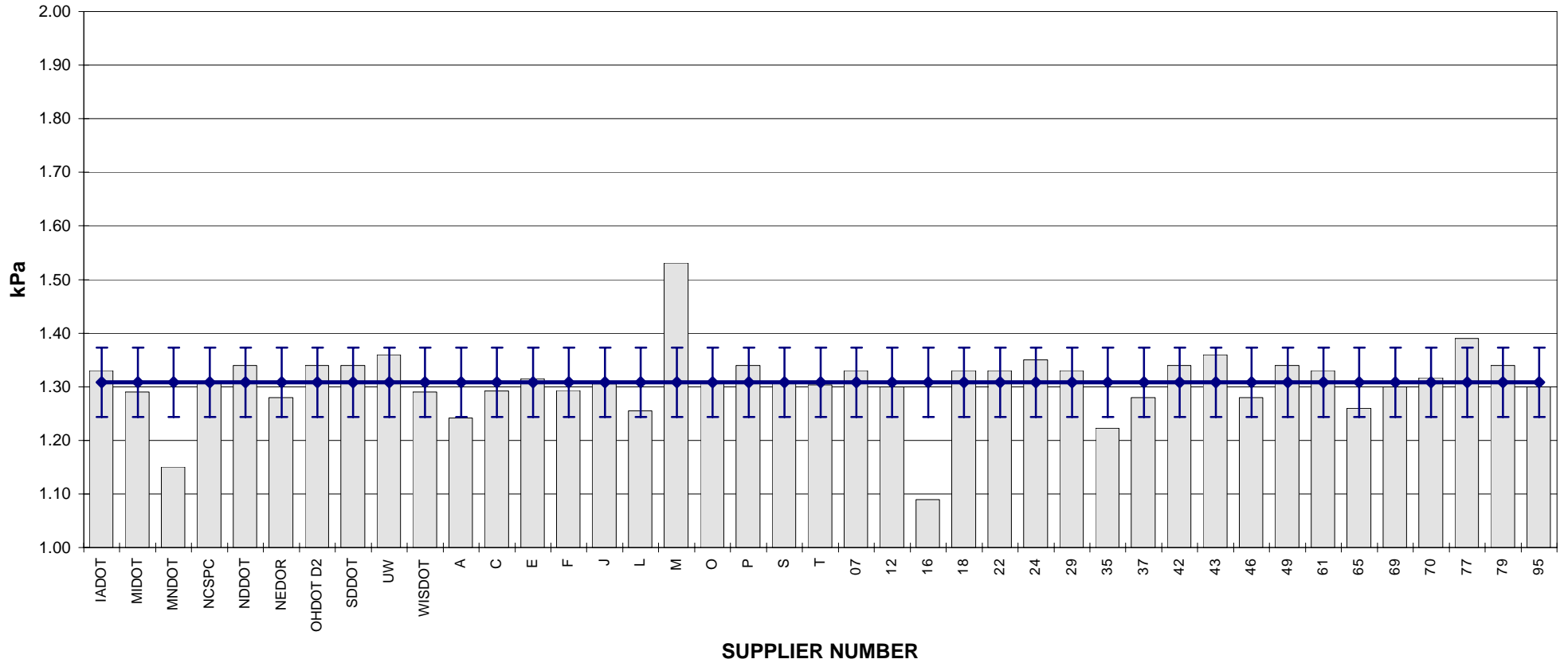
PG 58-34

ROTATIONAL VISCOSITY



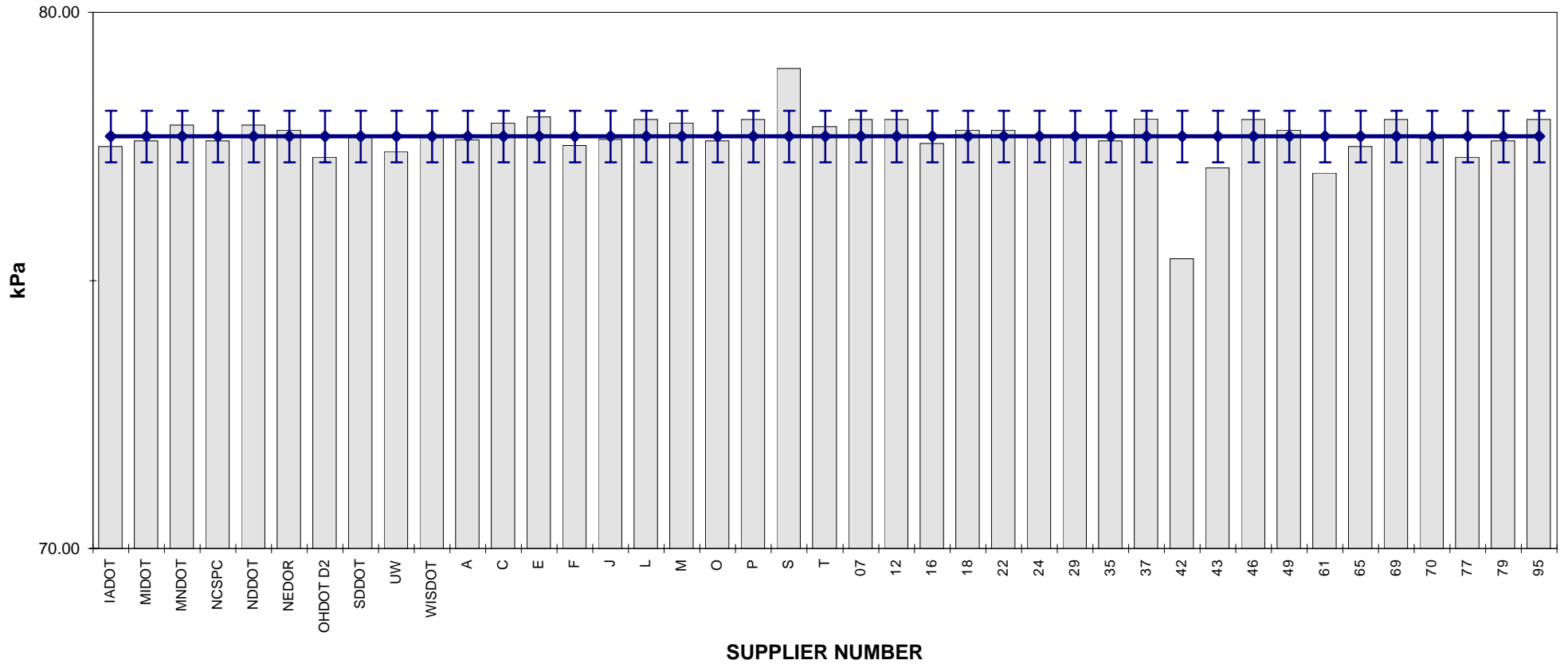
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DSR - ORIGINAL



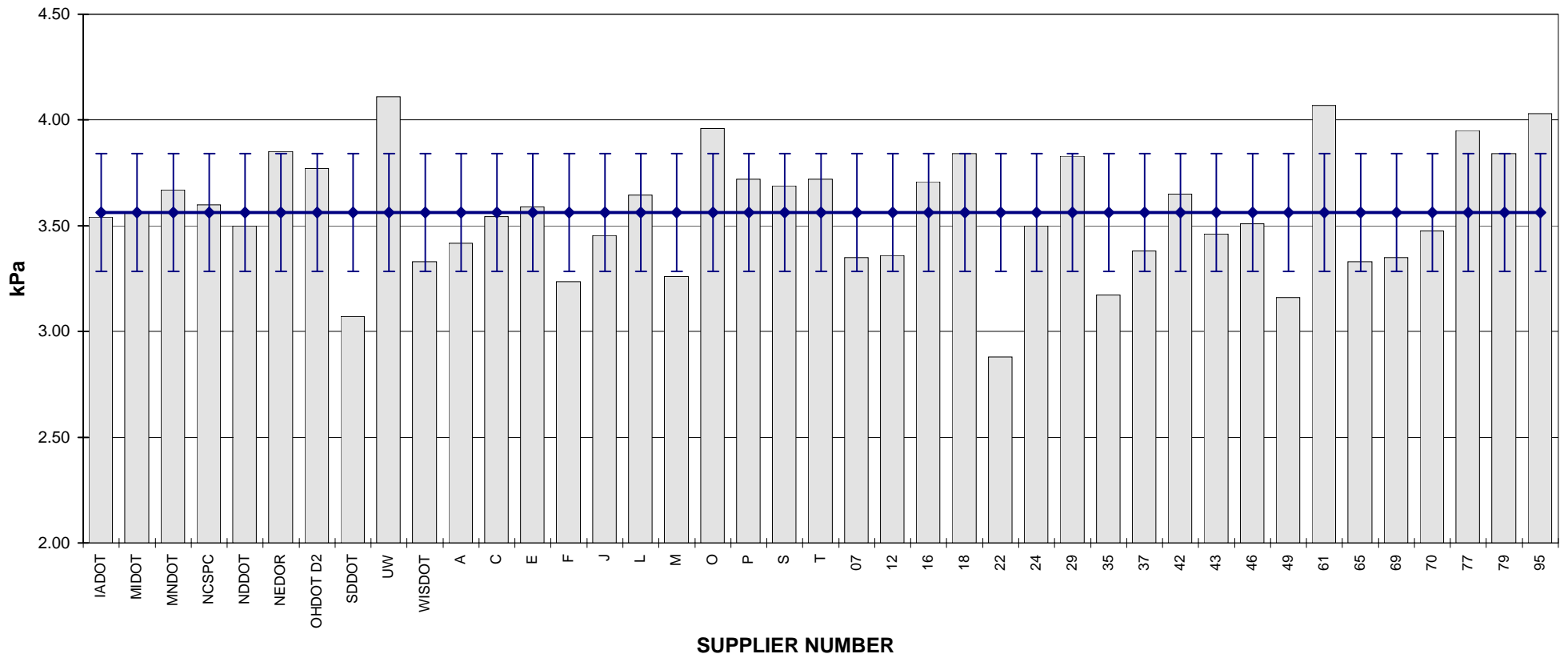
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DSR - PHASE ANGLE



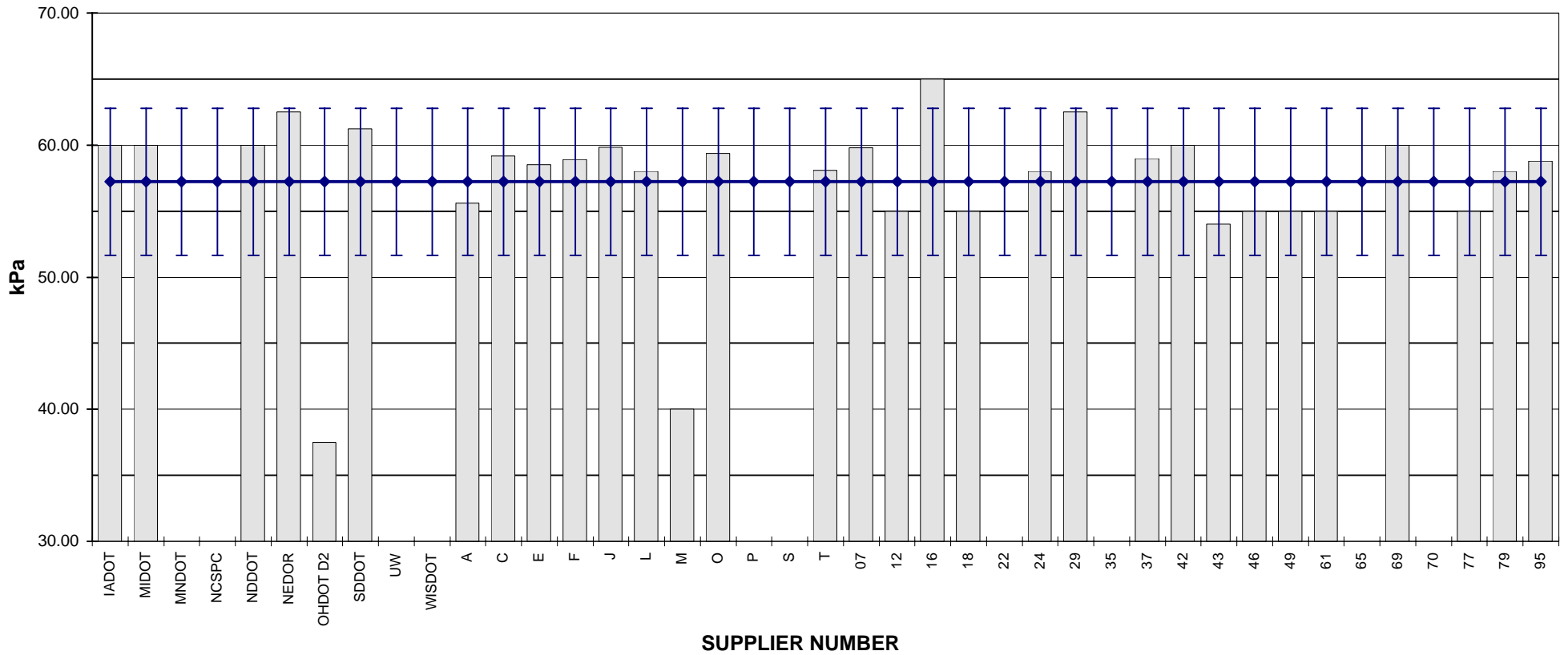
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DSR - RTFO

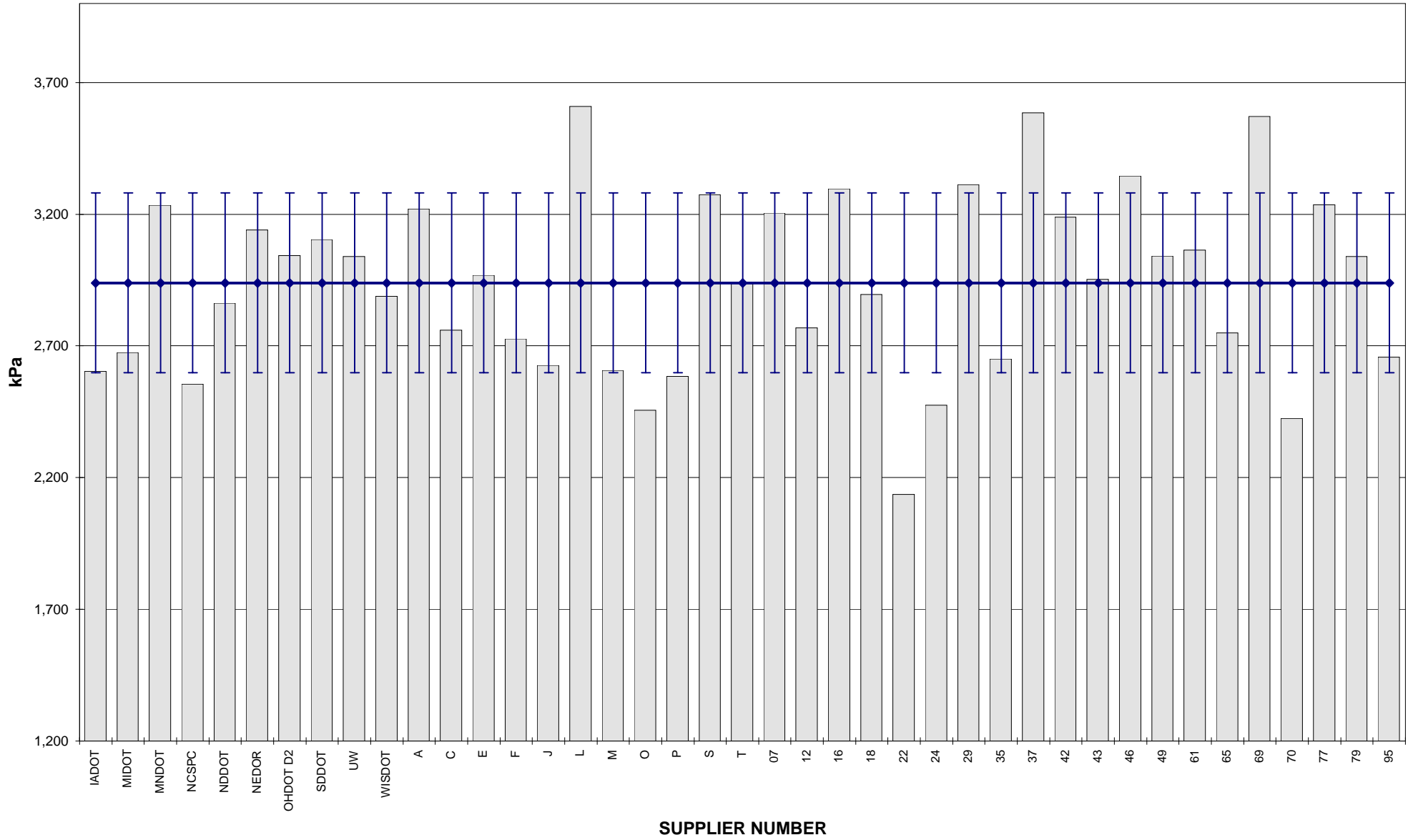


**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
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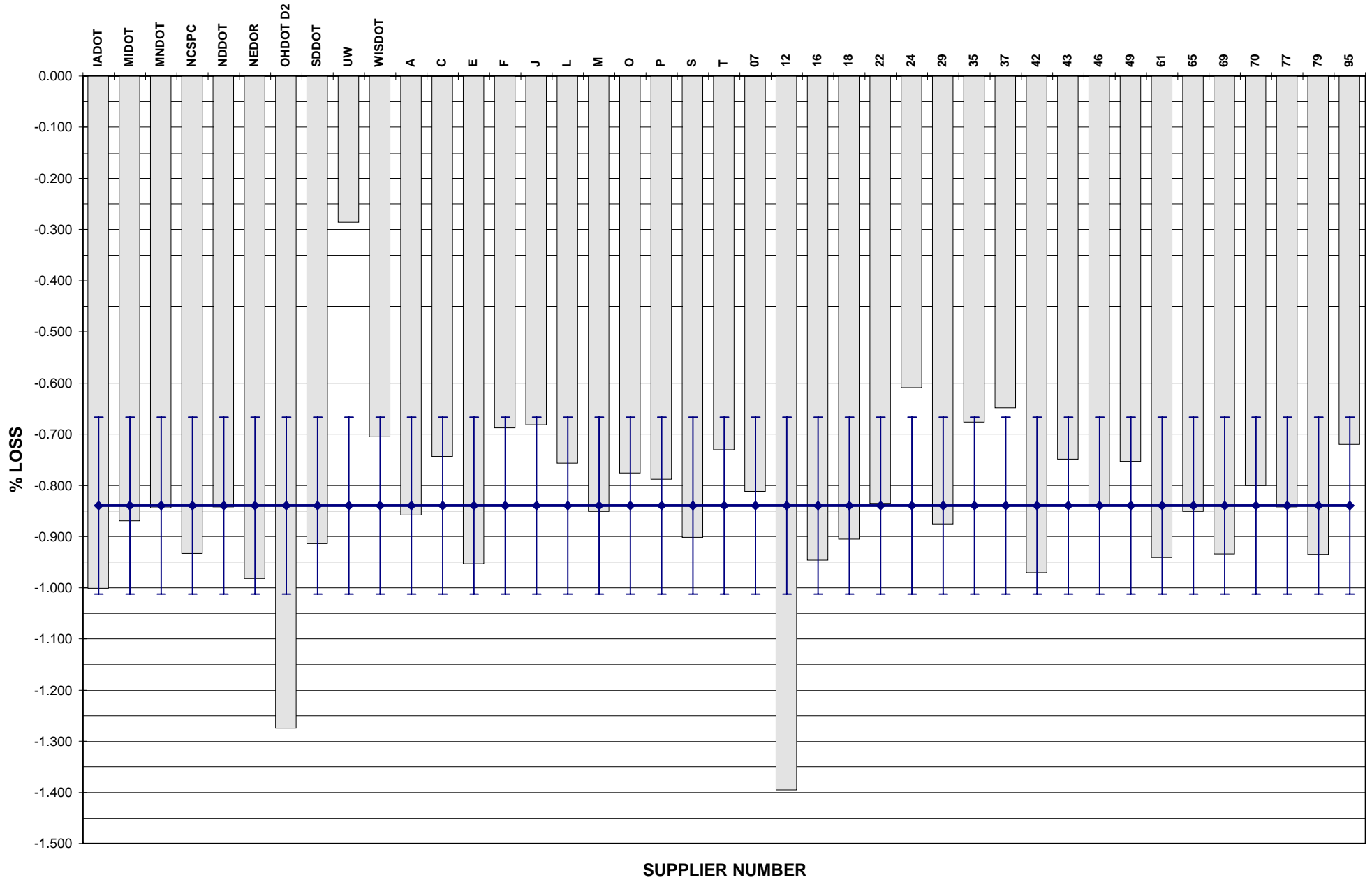
DSR - ELASTIC RECOVERY



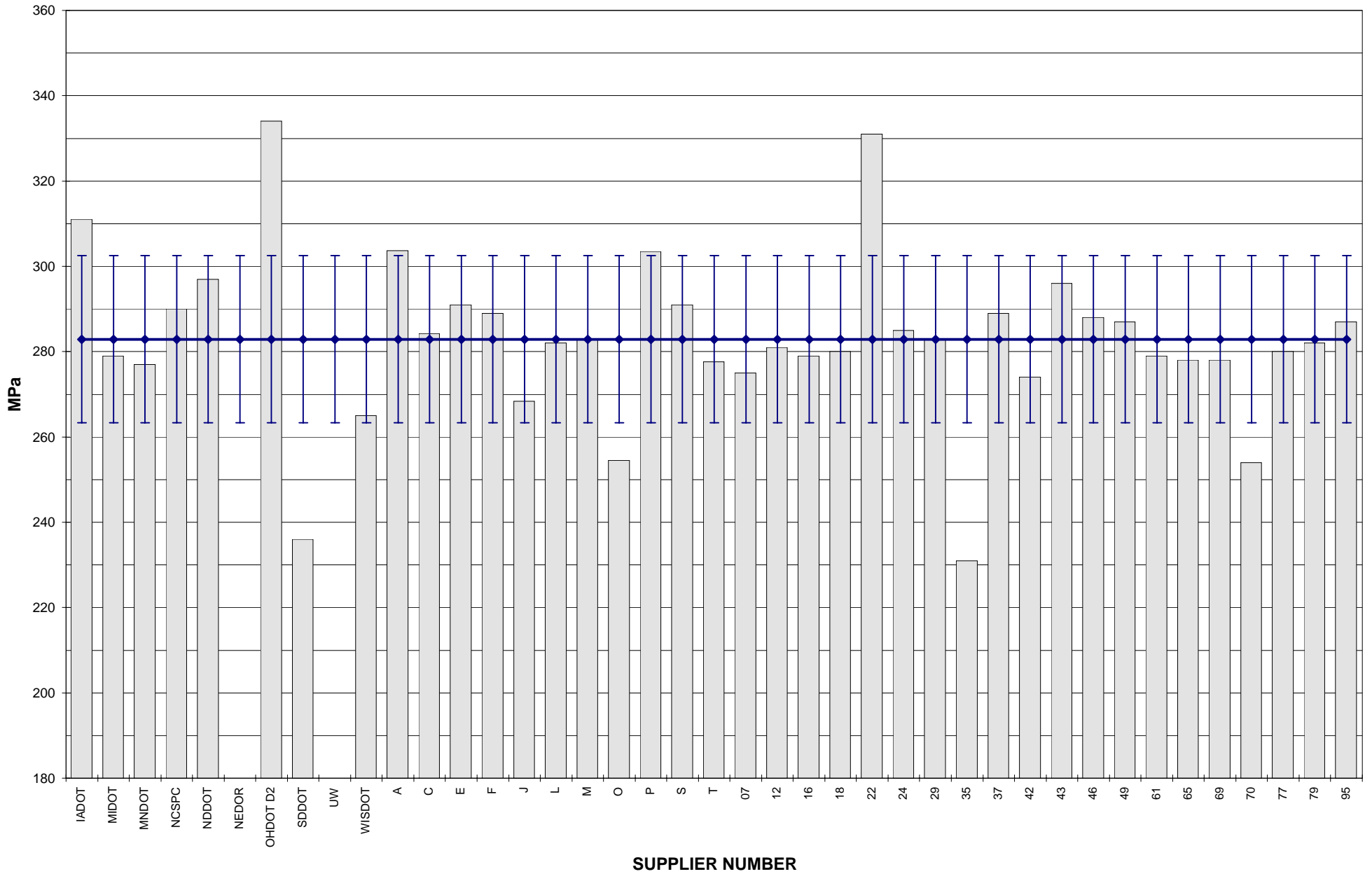
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
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DSR - PAV



COMBINED STATE BINDER GROUP ROUND ROBIN 2006-1
SUMMARY B
PG 58-34
RTFO MASS LOSS



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



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

