



**Combined State Binder  
Group**

Method of Acceptance for  
Asphalt Binders

Round Robin 2004-2  
Summary A

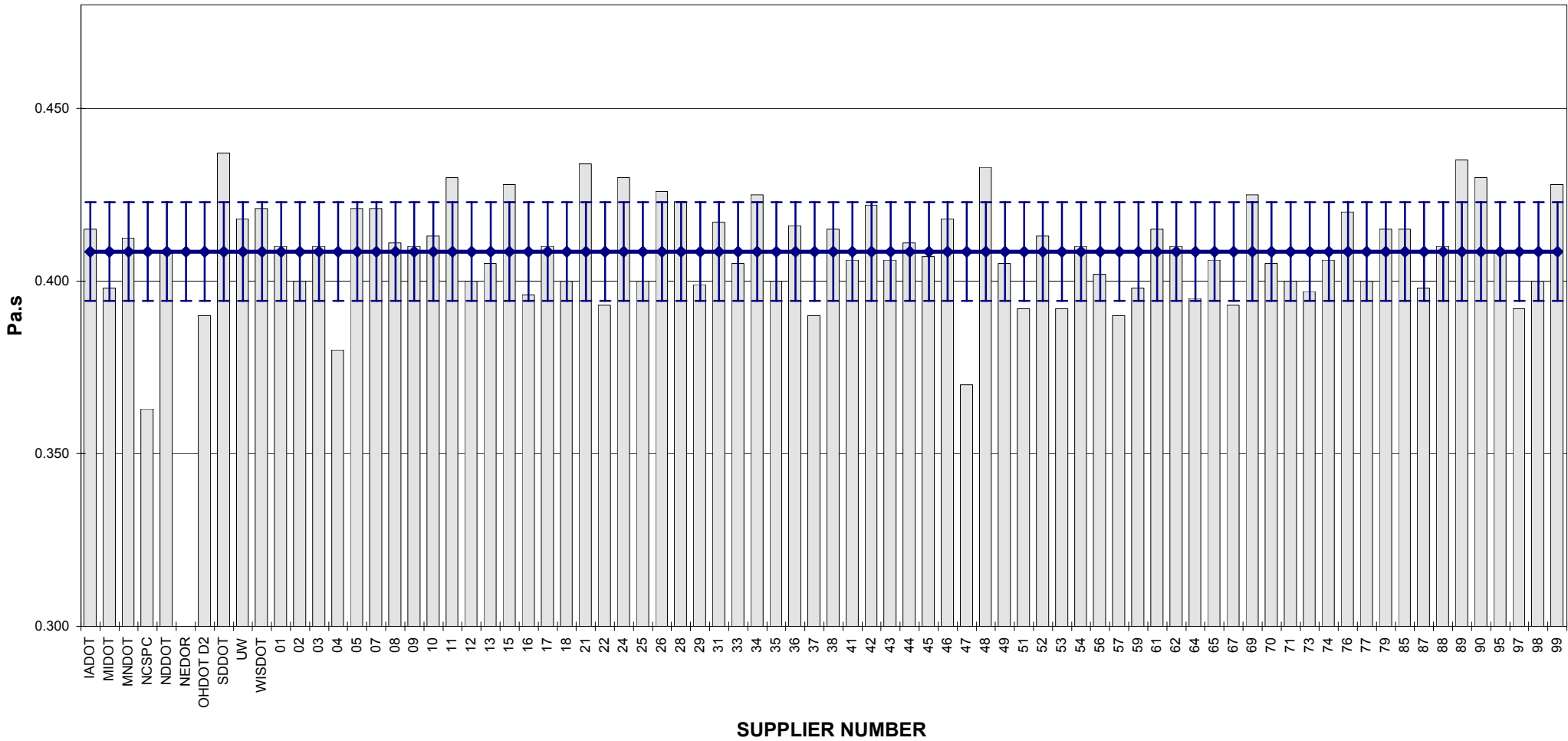
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2**  
**SUMMARY A**  
**PG 64-22**

Supplier Number	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	DTT Strain (%) @-12°C	DTT Stress (MPa) @-12°C	CRITICAL CRACK TEMP (°C)
IADOT	0.415	1.31	3.32	4.555	-0.266	215	0.313			
MIDOT	0.398	1.27	3.24	4.601	-0.305	206	0.316			
MNDOT	0.413	1.27	3.46	4.754	-0.360	202	0.308			
NCSPC	0.363	1.35	3.03	3.111	-0.341	202	0.313			
NDDOT	0.408	1.32	3.24	3.893	-0.323					
NEDOR		1.26	3.17	5.750	-0.186	191	0.319			
OHDOT D2	0.390	1.30	3.36	4.381	-0.288	196	0.323			
SDDOT	0.437	1.38	3.43	2.416	-0.300	198	0.326			
UW	0.418	1.21	3.16		-0.288					
WISDOT	0.421	1.22	2.80	3.587	-0.262	198	0.339	1.89	4.86	-24.4
01	0.410	1.27	3.19	3.968	-0.230	201	0.316			
02	0.400	1.24	3.21	3.956	-0.013	193	0.327			
03	0.410	1.42	3.26	4.511	-0.244	195	0.329			
04	0.380	1.30	2.92	4.073	-0.223	189	0.326			
05	0.421	1.22	3.18	4.477	-0.224	192	0.316			
07	0.421	1.39	2.99	4.370	-0.304	202	0.326			
08	0.411	1.20	3.14	4.235	-0.221	184	0.314			
09	0.410	1.41	3.64	4.258	-0.227	198	0.327			
10	0.413	1.19	3.19	4.361	-0.329	186	0.316			
11	0.430	1.33	3.24	4.281	-0.049	190	0.330			
12	0.400	1.24	3.08	4.206	-0.376	191	0.326			
13	0.405	1.35	3.18	4.567	-0.241	203	0.325			
15	0.428	1.35	3.39	3.876	-0.336	198	0.324			
16	0.396	1.22	3.05	4.862	-0.199	193	0.324			
17	0.410	1.27	3.09	3.846	-0.186	191	0.323			
18	0.400	1.25	3.52	3.727	-0.308	193	0.324			
21	0.434	1.22	3.08	4.151	-0.316	202	0.323			
22	0.393	1.18	2.88	3.779	-0.390	209	0.319			
24	0.430	1.37	3.26	4.274	-0.252	208	0.328	0.52	3.87	-23.1
25	0.400	1.28	3.26	4.791	-0.240	194	0.321			
26	0.426	1.40	3.25	4.116	-0.280	208	0.323			
28	0.423	1.21	3.16	3.978	-0.330	204	0.320			
29	0.399	1.20	2.63	3.427	-0.355	193	0.320			
31	0.417	1.25	3.04	3.062	-0.278	196	0.319			
33	0.405	1.38	3.63	4.842	-0.245	227	0.319			
34	0.425	1.36	3.06	3.881	-0.042	189	0.324			
35	0.400	1.29	3.59	3.558	-0.224	172	0.369			
36	0.416	1.39	3.18	4.062	-0.282	206	0.327			
37	0.390	1.31	3.77	4.073	-0.277	175	0.325			
38	0.415	1.21	3.00	4.552	-0.310	198	0.318			
41	0.406	1.19	3.06	4.213	-0.228	190	0.322			
42	0.422	1.29	3.28	4.149	-0.365	212	0.320			
43	0.406	1.28	3.20	3.752	-0.262	202	0.332			
44	0.411	1.18	3.23	3.868	-0.226	188	0.318			
45	0.407	1.21	3.26	4.067	-0.227	190	0.316			
46	0.418	1.25	3.17	3.920	-0.340	203	0.321			
47	0.370	1.27	3.15	3.972	-0.297	181	0.330			
48	0.433	1.32	3.18	3.464	-0.059	196	0.326			
49	0.405	1.31	3.48	1.399	-0.349	208	0.313			
51	0.392	1.29	3.15	4.190	-0.295	222	0.329	1.28	3.88	
52	0.413	1.23	3.11	4.097	-0.303	198	0.320			
53	0.392	1.18	2.91	4.450	-0.328	197	0.324			
54	0.410	1.33	2.96	4.050	-0.274	198	0.327			
56	0.402	1.31	2.96	3.682	-0.046	191	0.332			
57	0.390	1.29	3.05	4.001	-0.172	186	0.324	0.32	1.80	
59	0.398	1.22	3.16	4.616	-0.290	196	0.328			
61	0.415	1.25	3.21	1.399	-0.371	199	0.325			
62	0.410	1.28	3.20	3.483	-0.025	188	0.338			
64	0.395	1.23	2.98	4.452	-0.367	204	0.320			
65	0.406	1.19	2.98	4.196	-0.305	186	0.314			
67	0.393	1.29	3.43	4.200	-0.324	181	0.342			
69	0.425	1.30	3.05	4.235	-0.395	148	0.332	1.46	4.33	-23.4
70	0.405	1.31	3.27	3.892	-0.340	187	0.326			
71	0.400	1.28	3.22	3.760	-0.410	198	0.326			
73	0.397	1.37	3.21	3.730	-0.450	208	0.326			
74	0.406	1.25	3.31	4.351	-0.231	184	0.314			
76	0.420	1.27	3.42	4.800	-0.341	212	0.324			
77	0.400	1.25	3.34	4.013	-0.335	192	0.322			
79	0.415	1.24	3.77	4.482	-0.363	211	0.318			
85	0.415	1.30	3.37	4.821	-0.321	209	0.320			
87	0.398	1.24	3.29	3.708	-0.281	187	0.332			
88	0.410	1.30	3.00	3.895	-0.273	196	0.327			
89	0.435	1.33	3.40	3.917	-0.351	201	0.320			
90	0.430	1.21	3.17	4.150	-0.327	202	0.316			
95	0.408	1.24	3.34	3.847	-0.296	201	0.327			
97	0.392	1.28	3.15	4.497	-0.283	213	0.326	1.09	3.42	
98	0.400	1.29	3.16	4.313	-0.281	212	0.329	1.22	3.68	
99	0.428	1.27	3.24	4.040	-0.310	204	0.319			
<b>Average</b>	0.4086	1.2783	3.2063	4.042.06	-0.2755	196.95	0.3238	1.112	3.69	
<b>Std. Dev.</b>	0.0143	0.0603	0.2017	636.84	0.0880	11.54	0.0081	0.538	0.96	
<b>Coef. of Var.</b>	3.511	4.720	6.292	15.755	31.939	5.857	2.514	48.402	25.92	

COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A

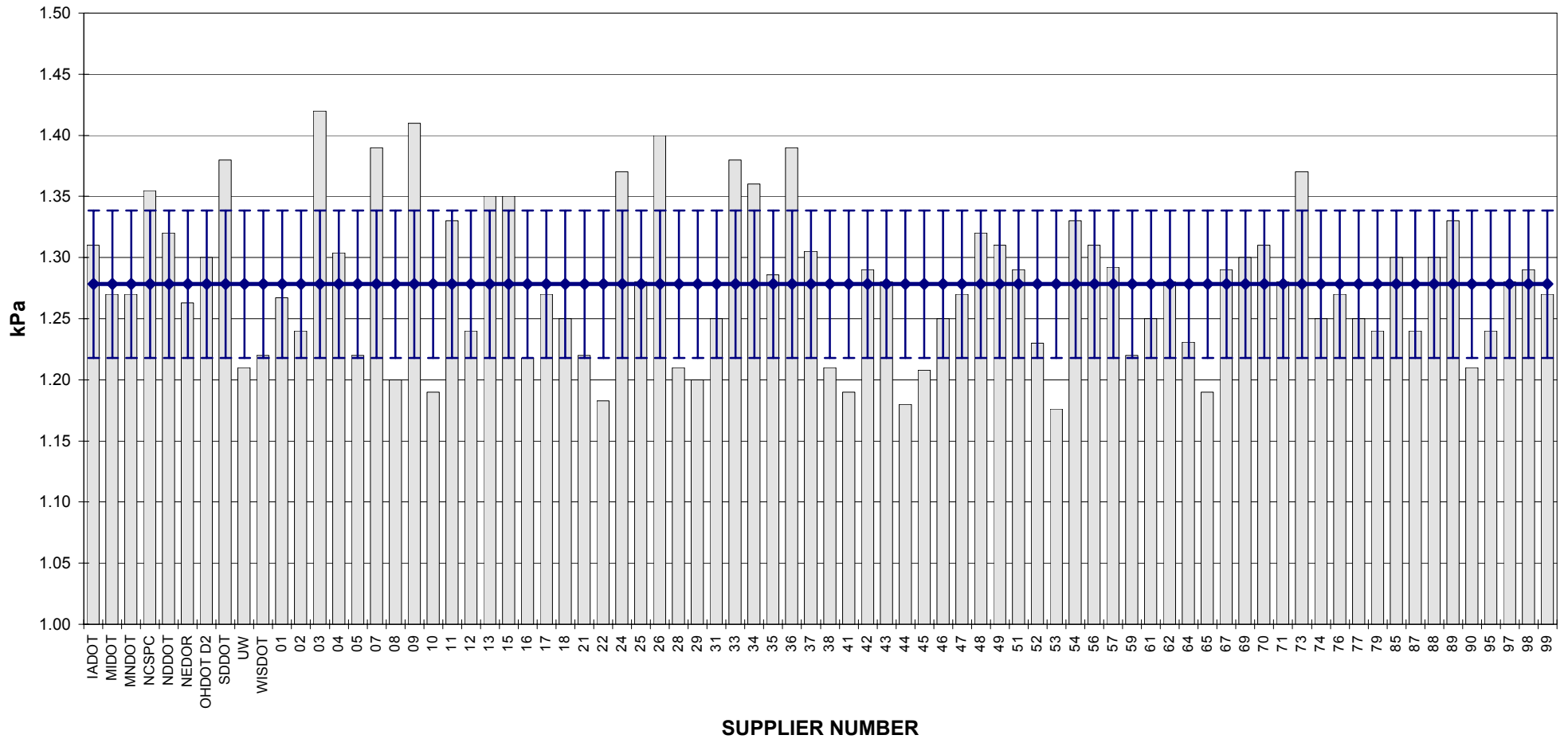
PG 64-22

ROTATIONAL VISCOSITY



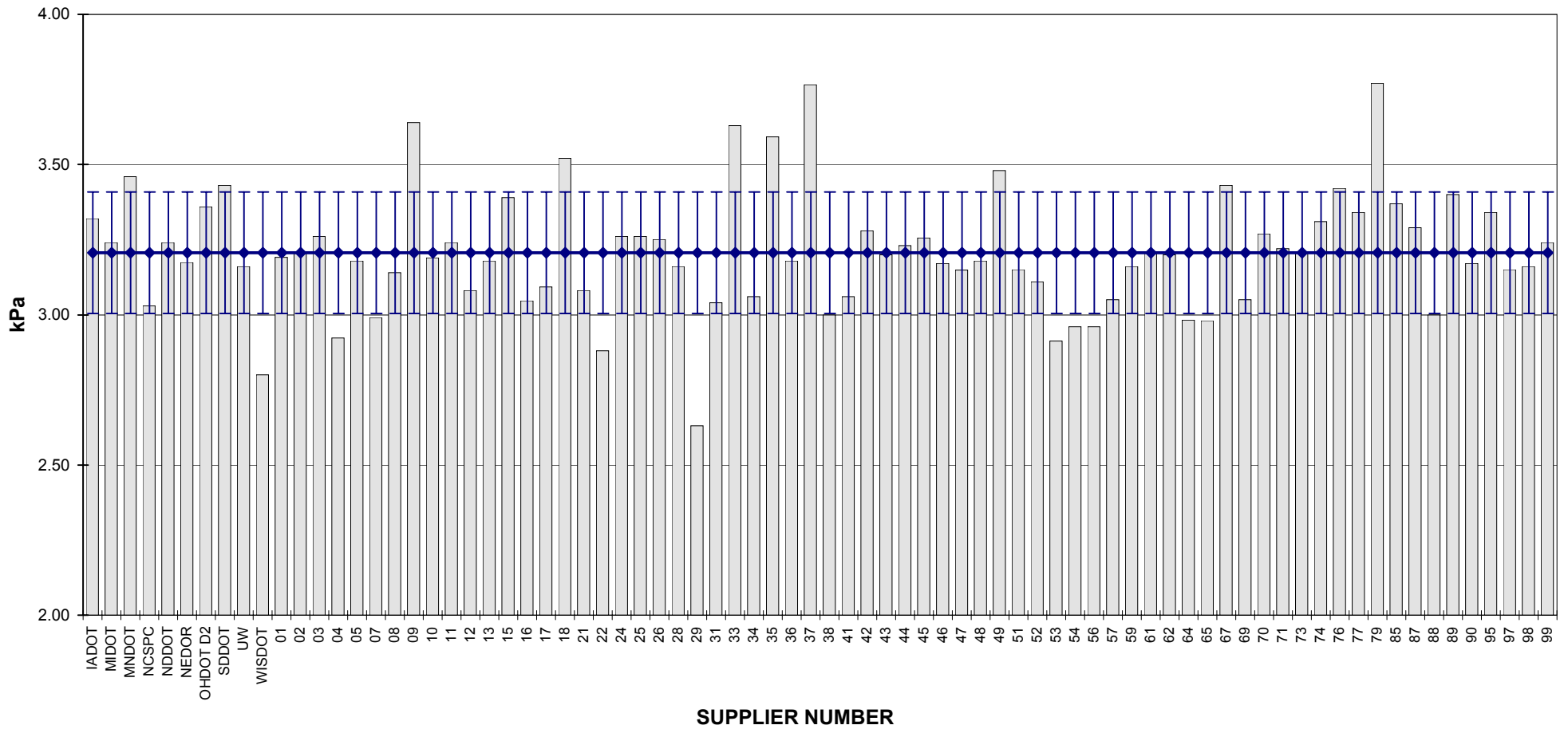
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A  
PG 64-22**

**DSR - ORIGINAL**

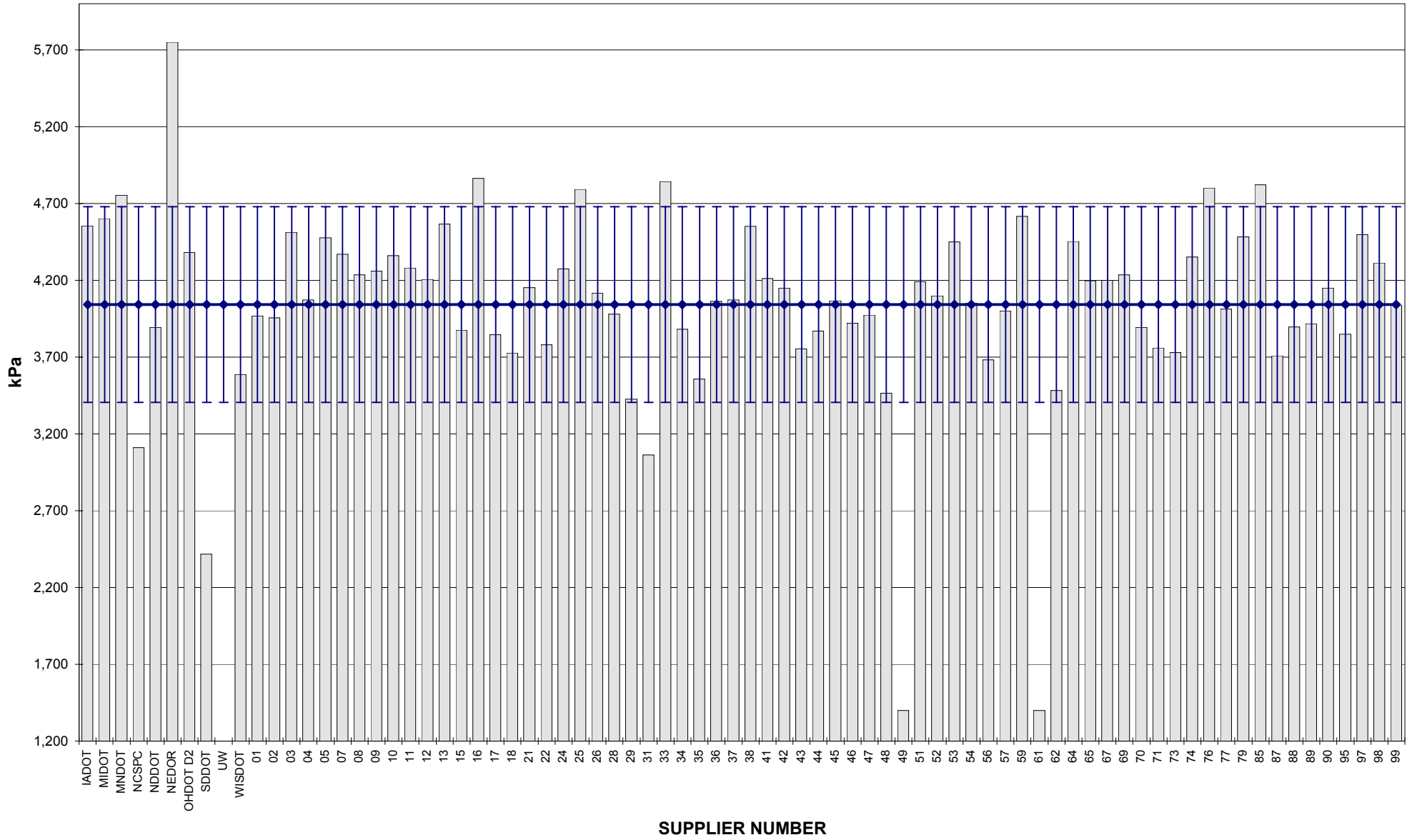


COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A  
PG 64-22

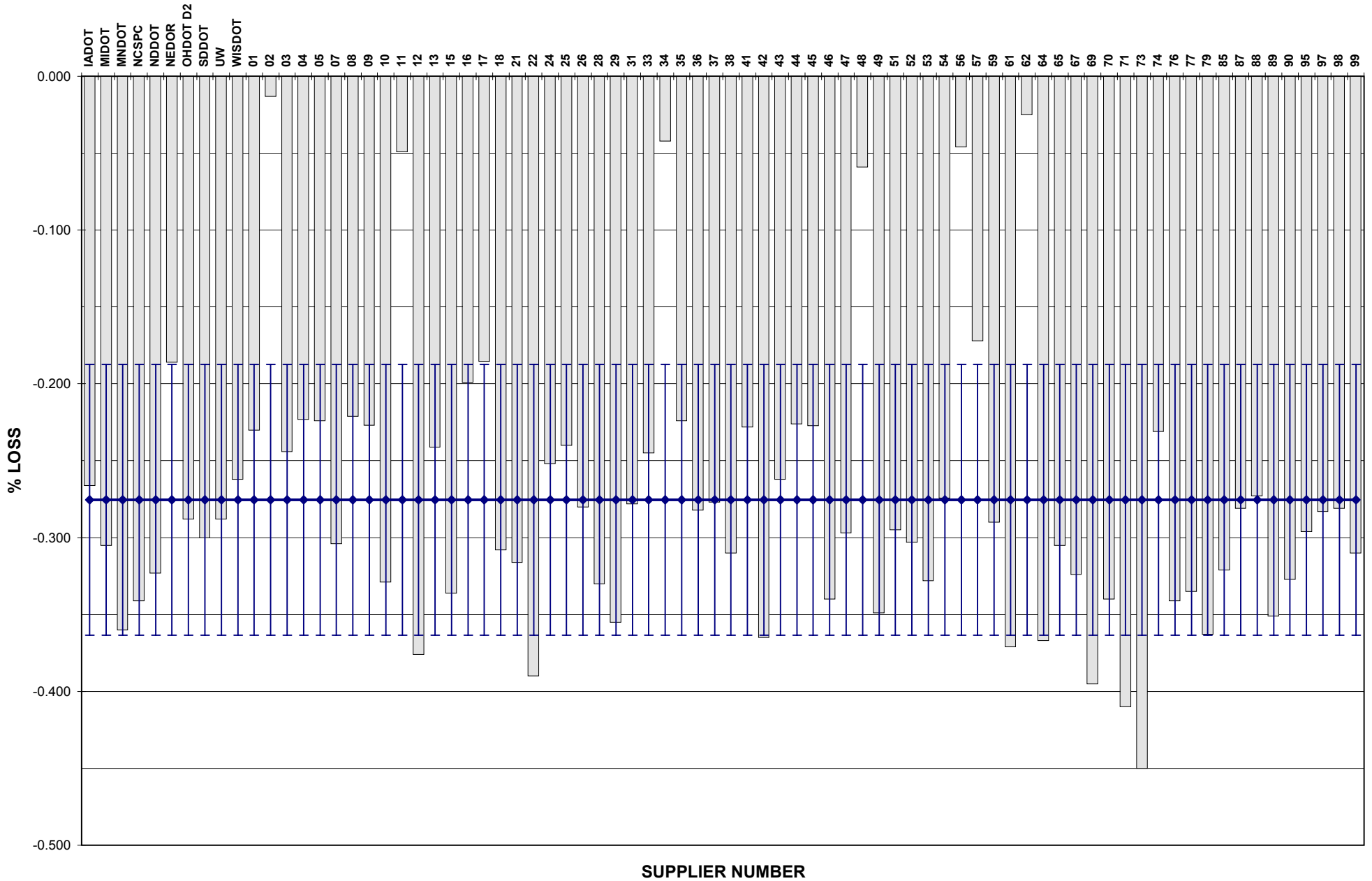
DSR - RTFO



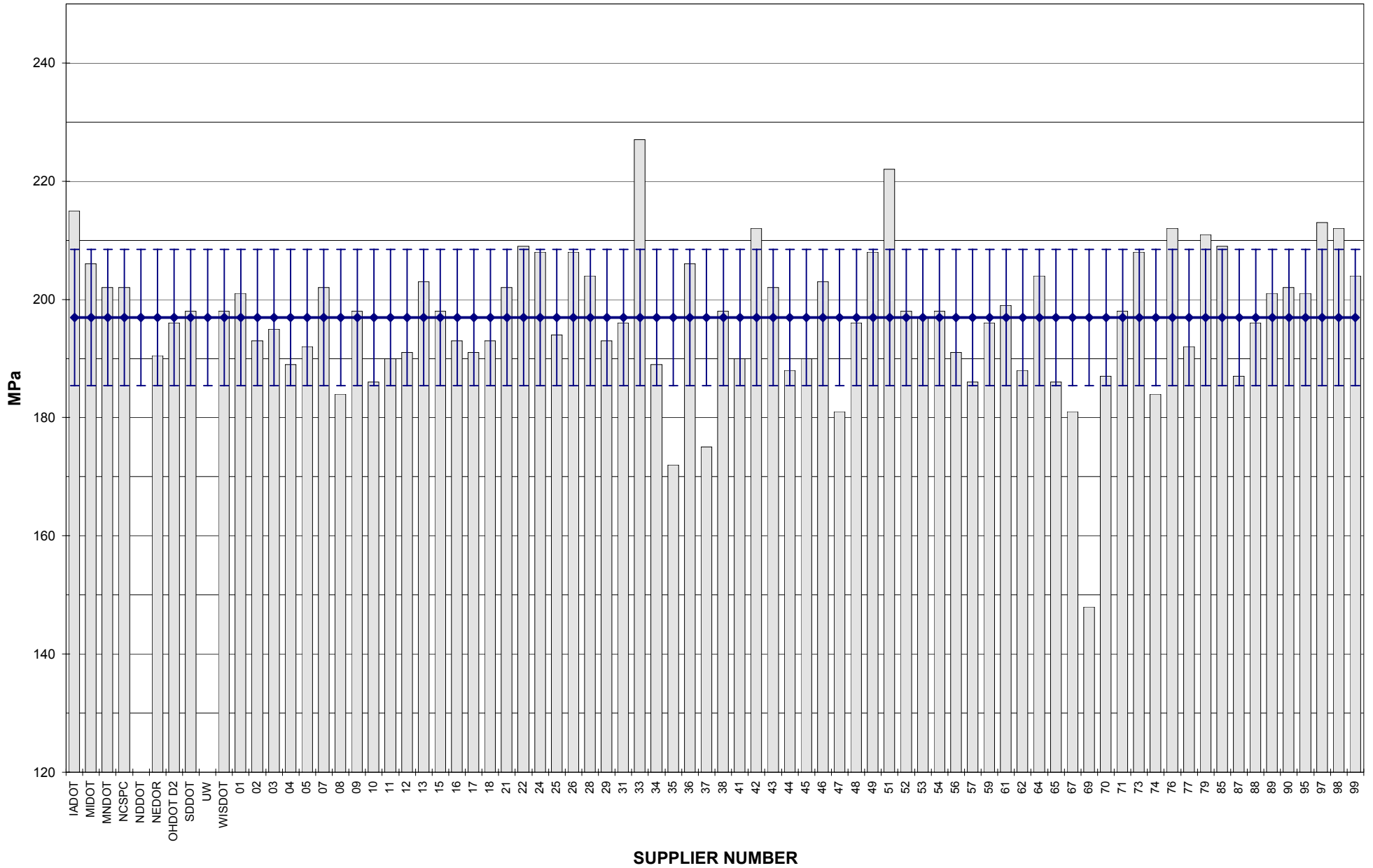
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2**  
**SUMMARY A**  
**PG 64-22**  
**DSR - PAV**



**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2**  
**SUMMARY A**  
**PG 64-22**  
**RTFO MASS LOSS**

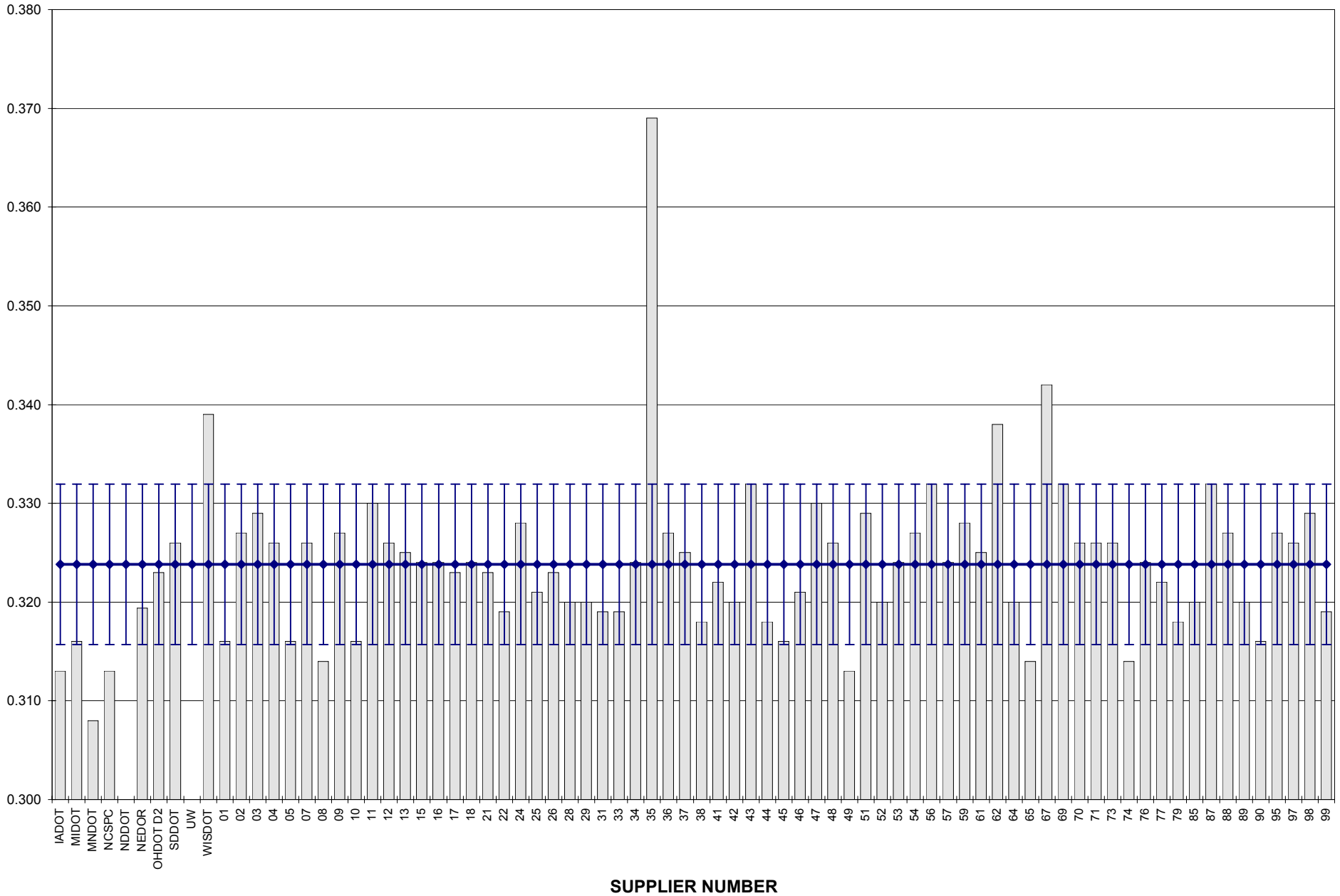


COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A  
PG 64-22  
BBR STIFFNESS





**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2**  
**SUMMARY A**  
**PG 64-22**  
**BBR m-VALUE**



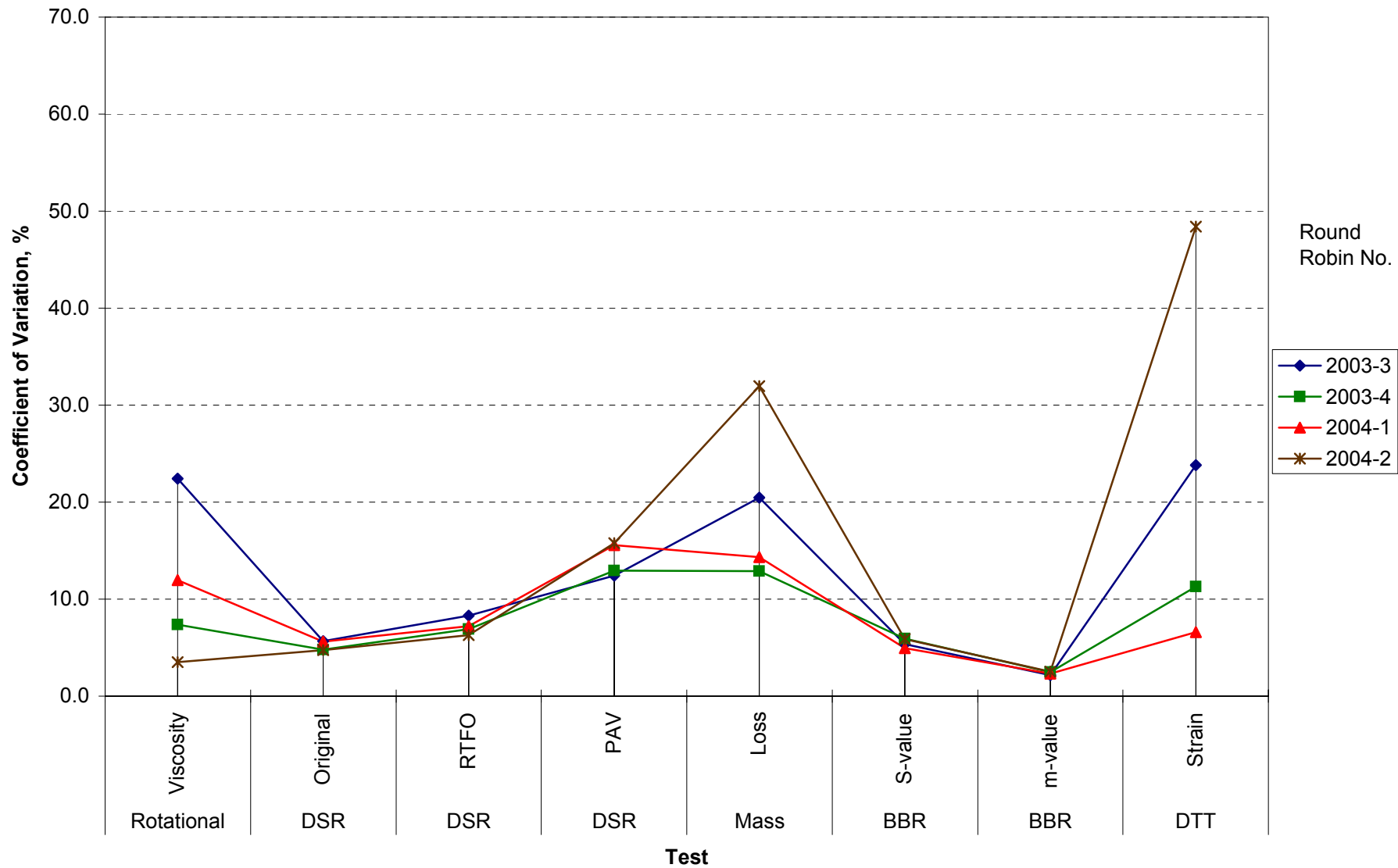
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A**

**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
2003-3	79	22.429	5.673	8.317	12.431	20.453	5.366	2.171	23.809
2003-4	78	7.395	4.807	6.8815	12.916	12.861	5.9255	2.4853	11.264
2004-1	76	11.950	5.6202	7.215	15.576	14.307	4.9252	2.3201	6.5768
2004-2	78	3.511	4.720	6.292	15.755	31.939	5.857	2.514	48.402

**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-2  
SUMMARY A**

**COEFFICIENT OF VARIATION**



**STATISTICS WITH OUTLIERS REMOVED:**

	<b>Rotational Viscosity (Pa.s) @135°C</b>	<b>DSR Original (kPa) @64°C</b>	<b>DSR RTFO (kPa) @64°C</b>	<b>DSR PAV (kPa) @25°C</b>	<b>Mass Loss (%) @163°C</b>	<b>BBR S-value (MPa) @-12°C</b>	<b>BBR m-value @-12°C</b>
<b>Average</b>	0.4086	1.2783	3.2063	4,113.35	-0.2755	197.61	0.3232
<b>Std. Dev.</b>	0.0143	0.0603	0.2017	389.43	0.0880	10.10	0.0063
<b>Coef. of Var.</b>	3.511	4.720	6.292	9.467	31.939	5.112	1.937