



**Combined State Binder
Group**

Method of Acceptance for
Asphalt Binders

Round Robin 2004-4
Summary A

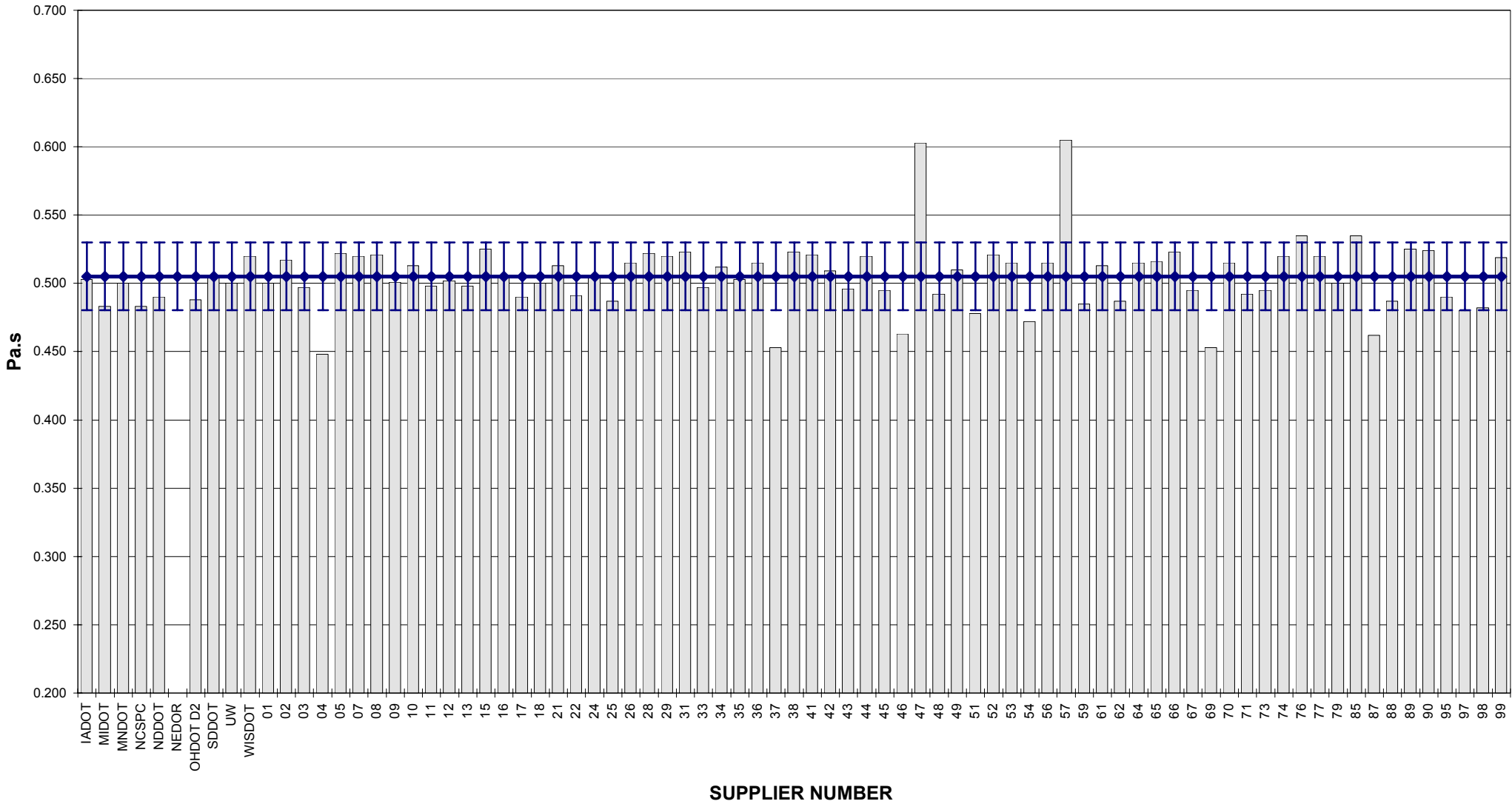
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34**

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	DSR RTFO (kPa) @58°C	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	0.503	1.55	3.47	2,326	-0.971	211	0.322			
MIDOT	0.483	1.43	3.29	2,015	-0.939	206	0.330			
MNDOT	0.500	1.53	3.85	2,851	-1.030	199	0.316			
NCSPC	0.483	1.56	3.39	2,192	-0.978	217	0.313			
NDDOT	0.490	1.49	3.35	2,110	-0.933	217	0.338			
NEDOR		1.55	3.54	2,286	-0.830	209	0.326			
OHDOT D2	0.488	1.85	3.55	2,273	-0.850	230	0.317			
SDDOT	0.506	1.60	3.72	2,750	-0.883	208	0.321			
UW	0.500	1.38	2.94	2,255	-0.947	262	0.282			
WISDOT	0.520	1.59	3.31	2,136	-0.831	208	0.338	1.78	4.93	-36.8
01	0.500	1.44	3.65	2,074	-0.832	200	0.323			
02	0.517	1.60	3.33	2,097	-0.929	218	0.322			
03	0.497	1.57	3.63	2,359	-0.871	205	0.318			
04	0.448	1.43	3.33	1,661	-0.947	187	0.328			
05	0.522	1.47	3.26	1,940	-0.781	198	0.322			
07	0.520	1.46	3.06	2,192	-0.901	218	0.326			
08	0.521	1.46	3.24	2,147	-0.901	212	0.330			
09	0.501	1.58	3.69	2,506	-0.858	214	0.322			
10	0.513	1.50	3.28	1,992	-0.783	210	0.321			
11	0.498	1.45	3.24	2,258	-0.907	218	0.320			
12	0.502	1.51	3.50	2,193	-0.996	217	0.328			
13	0.498	1.54	3.56	1,749	-0.873	227	0.318			
15	0.525	1.51	3.41	2,391	-0.959	217	0.318			
16	0.506	1.22	3.47	2,460	-0.831	217	0.329			
17	0.490	1.37	3.46	1,849	-0.885	201	0.328			
18	0.500	1.53	3.70	2,090	-1.002	209	0.328			
21	0.513	1.50	3.35	2,210	-0.987	220	0.322			
22	0.491	1.47	2.92	2,338	0.102	240	0.318			
24	0.505	1.57	3.74	2,249	-0.795	215	0.343	1.39	5.92	
25	0.487	1.49	3.46	2,798	-0.751	215	0.331			
26	0.515	1.44	3.32	2,140	-0.883	233	0.328			
28	0.522	1.49	3.36	2,241	-0.973	225	0.321			
29	0.520	1.52	3.26	1,984	-0.909	199	0.325			
31	0.523	1.43	3.39	1,733	-0.758	211	0.330			
33	0.497	1.56	3.84	2,213	-0.867	208	0.320			
34	0.512	1.57	3.46	2,027	-0.899	220	0.325			
35	0.503	2.12	3.35	2,661	-0.787	240	0.316			
36	0.515	1.50	3.37	2,028	-0.882	228	0.325			
37	0.453	1.45	3.13	1,621	-0.953	200	0.328			
38	0.523	1.45	3.34	1,999	-0.911	206	0.322			
41	0.521	1.40	3.15	1,894	-0.748	202	0.320			
42	0.509	1.55	3.82	1,979	-0.372	161	0.336			
43	0.496	1.55	3.40	2,087	-0.905	217	0.338			
44	0.520	1.47	3.35	2,091	-0.746	208	0.325			
45	0.495	1.45	3.27	1,872	-0.807	193	0.322			
46	0.463	1.52	3.83	2,203	-0.982	220	0.327			
47	0.603	1.48	3.42	1,638	-0.972	186	0.325			
48	0.492	1.50	3.37	1,887	-0.912	216	0.326			
49	0.510	1.54	3.79	2,278	-0.980	208	0.327			
51	0.478	1.48	3.28	2,386	-0.938	230	0.329			
52	0.521	1.44	3.35	1,842	-0.914	214	0.322			
53	0.515	1.59	3.59	1,780	-0.910	228	0.317			
54	0.472	1.49	3.41	2,244	-0.843	205	0.332			
56	0.515	1.46	3.50	2,339	-0.918	201	0.328			
57	0.605	1.54	3.27	1,629	-0.980	194	0.331	3.40	5.47	
59	0.485	1.54	3.28	2,930	-0.702	215	0.333			
61	0.513	1.52	3.36	2,162	-1.060	197	0.332			
62	0.487	1.58	3.43	2,156	-0.915	211	0.326			
64	0.515	1.58	3.71	2,227	-0.939	221	0.324			
65	0.516	1.44	3.23	2,028	-0.746	202	0.324			
66	0.523	1.50	3.37	2,287	-0.983	214	0.326			
67	0.495	1.53	4.24	2,614	-0.916	231	0.327			
69	0.453	1.41	3.03	2,100	-0.938	214	0.326	1.48	4.60	-34.9
70	0.515	1.52	3.42	2,080	-1.030	214	0.320			
71	0.492	1.48	3.06	1,338	-0.586	187	0.342			
73	0.495	1.56	3.43	1,897	-0.606	205	0.328			
74	0.520	1.42	3.15	2,186	-0.751	208	0.327			
76	0.535	1.49	3.83	2,121	-0.914	208	0.328			
77	0.520	1.52	3.86	2,472	-0.975	229	0.322			
79	0.500	1.53	3.49	1,992	-0.992	224	0.334			
85	0.535	1.65	4.03	2,395	-0.818	200	0.309			
87	0.462	1.51	3.44	2,099	-0.905	207	0.329			
88	0.487	1.43	3.26	2,228	-0.859	221	0.318			
89	0.525	1.49	3.52	2,150	-1.009	220	0.321			
90	0.524	1.51	3.41	2,143	-0.967	215	0.325			
95	0.490	1.66	3.52	2,089	-0.908	216	0.336			
97	0.480	1.54	3.44	2,383	-0.931	222	0.327			
98	0.482	1.52	3.43	2,379	-0.931	223	0.326			
99	0.519	1.50	3.20	2,288	-0.954	217	0.324			
Average	0.5050	1.51	3.44	2,156	-0.873	213	0.325	2.01	5.23	-35.9
Std. Dev.	0.0248	0.1033	0.2381	281.73	0.1550	13.90	0.0080	0.940	0.58	
Coef. of Var.	4.914	6.823	6.930	13.070	17.755	6.535	2.449	46.703	11.15	

COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A

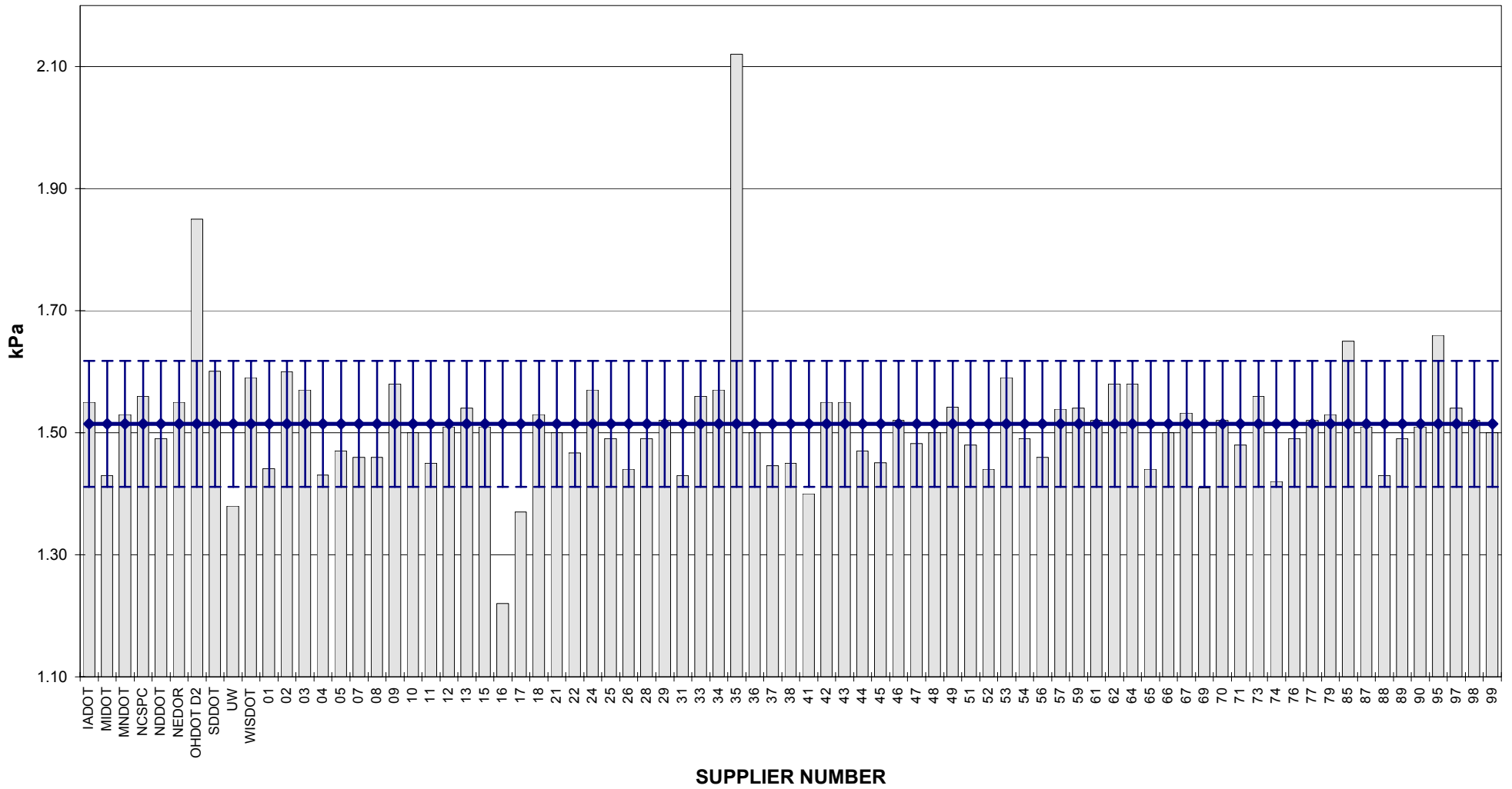
PG 58-34

ROTATIONAL VISCOSITY



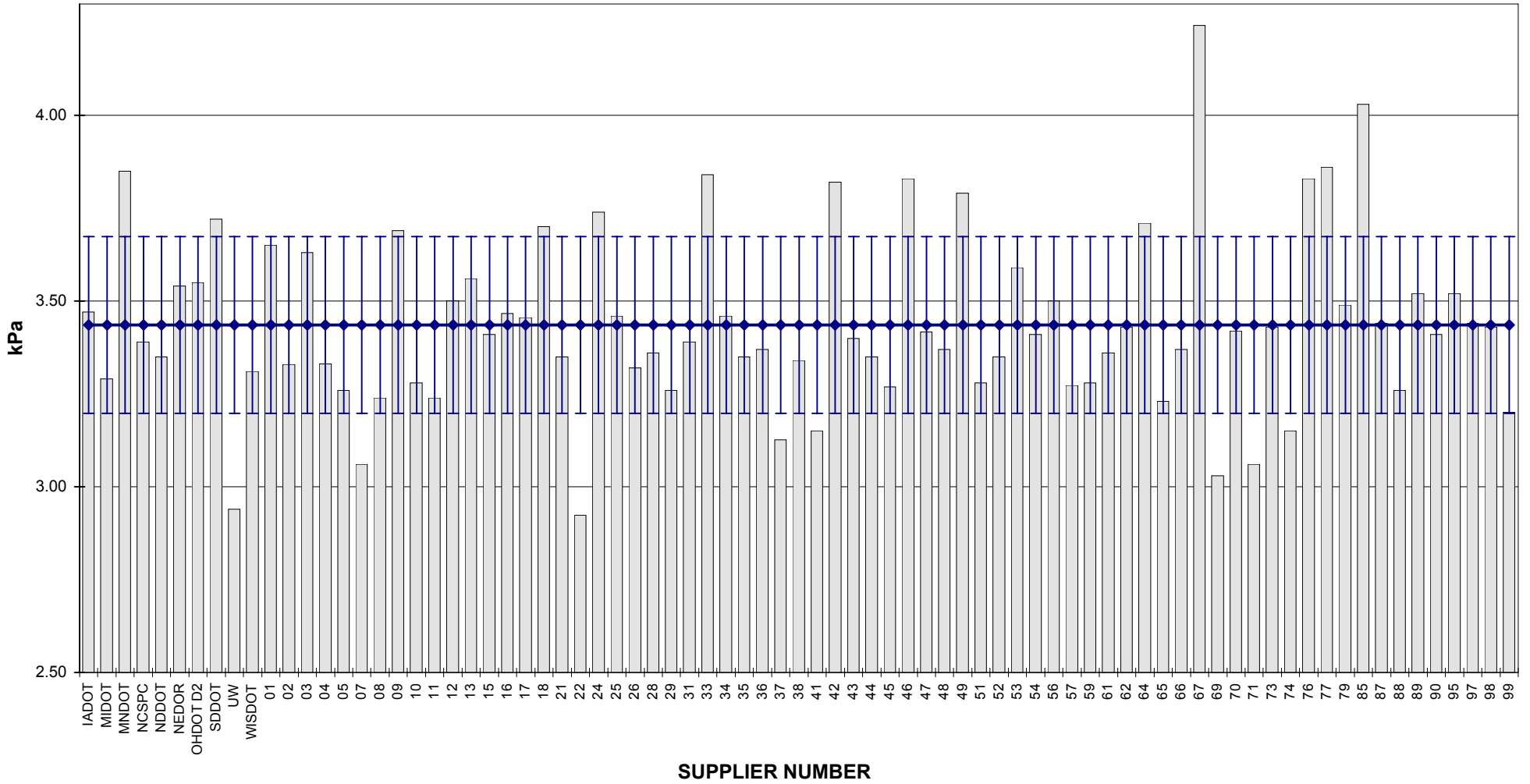
COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34

DSR - ORIGINAL

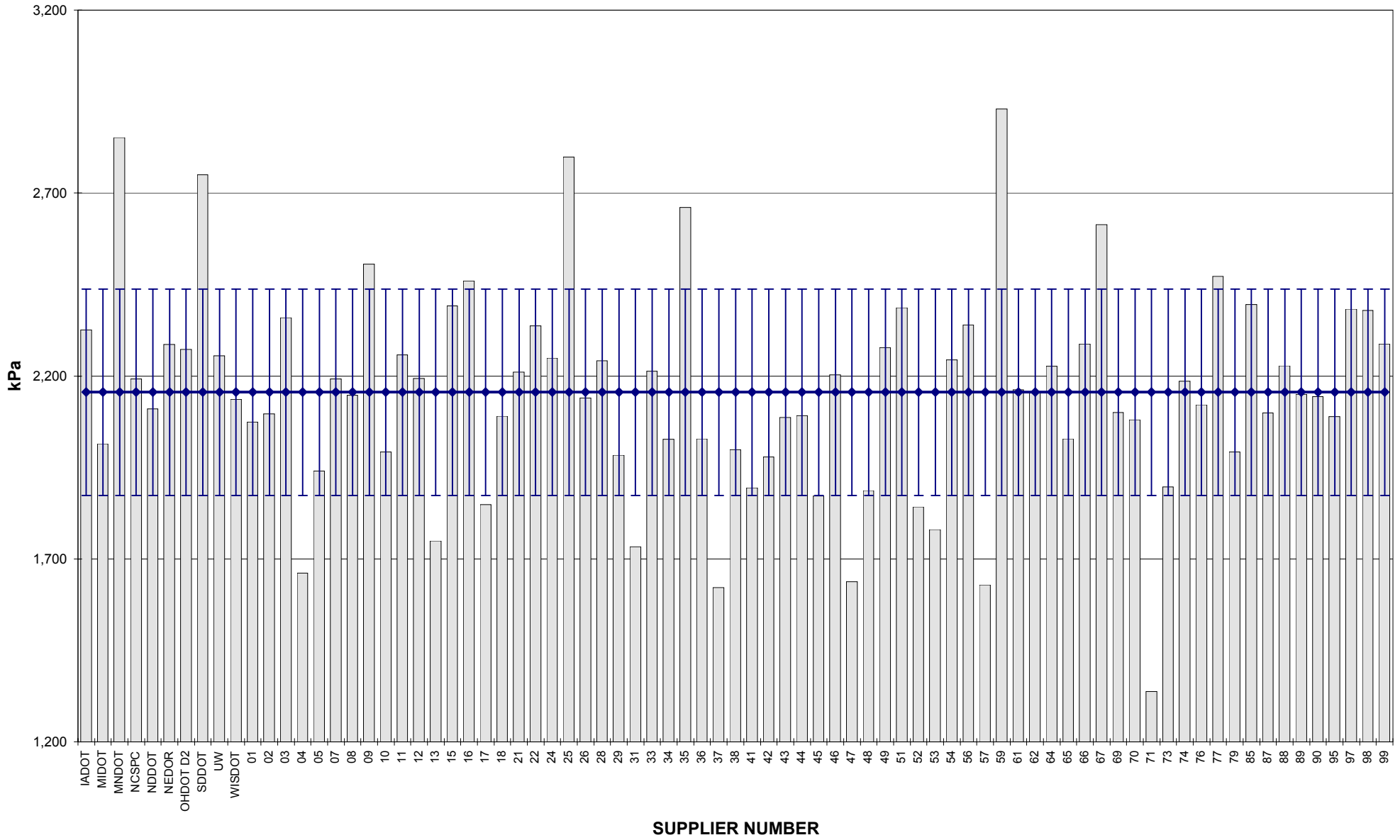


**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34**

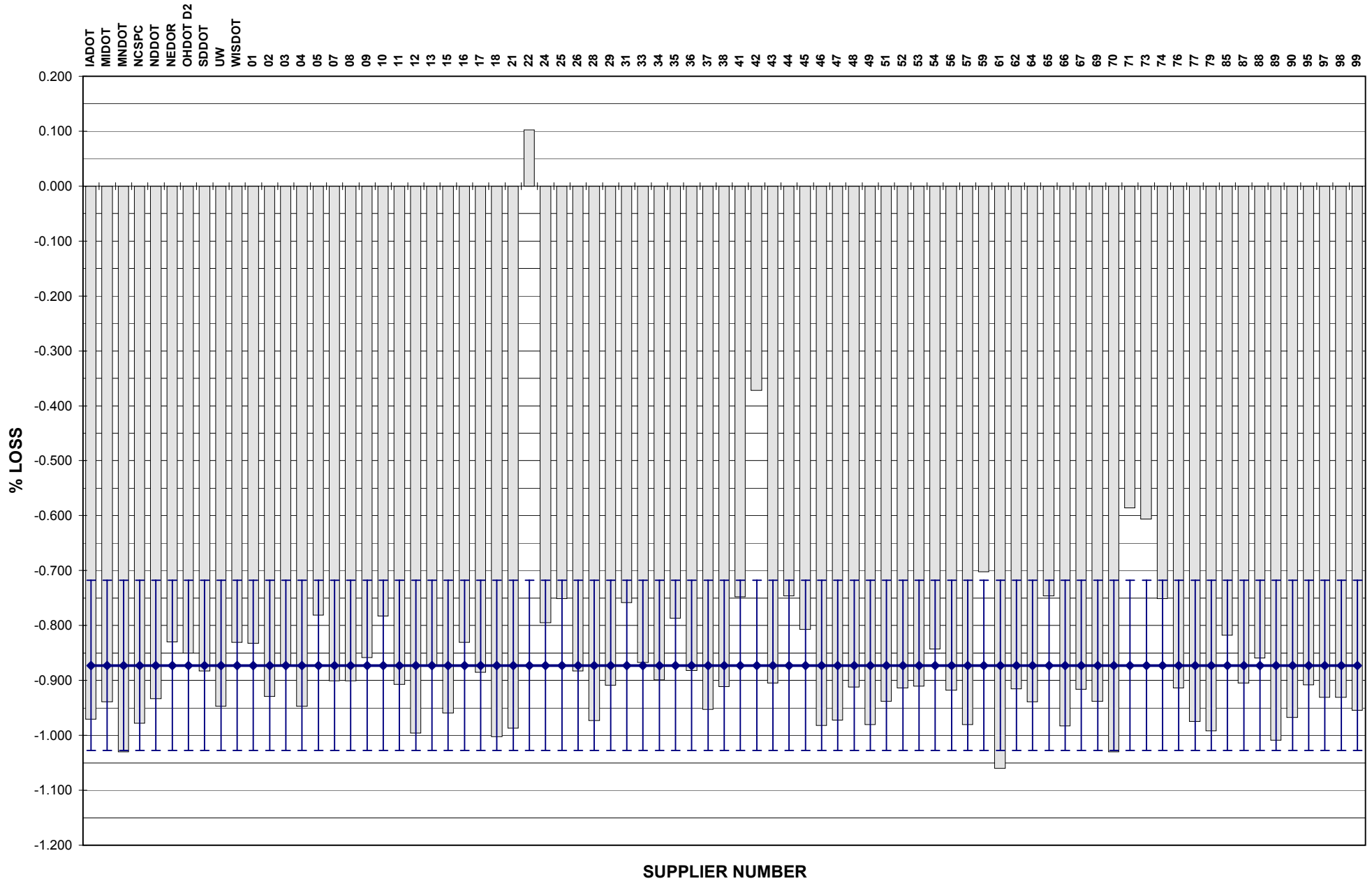
DSR - RTFO



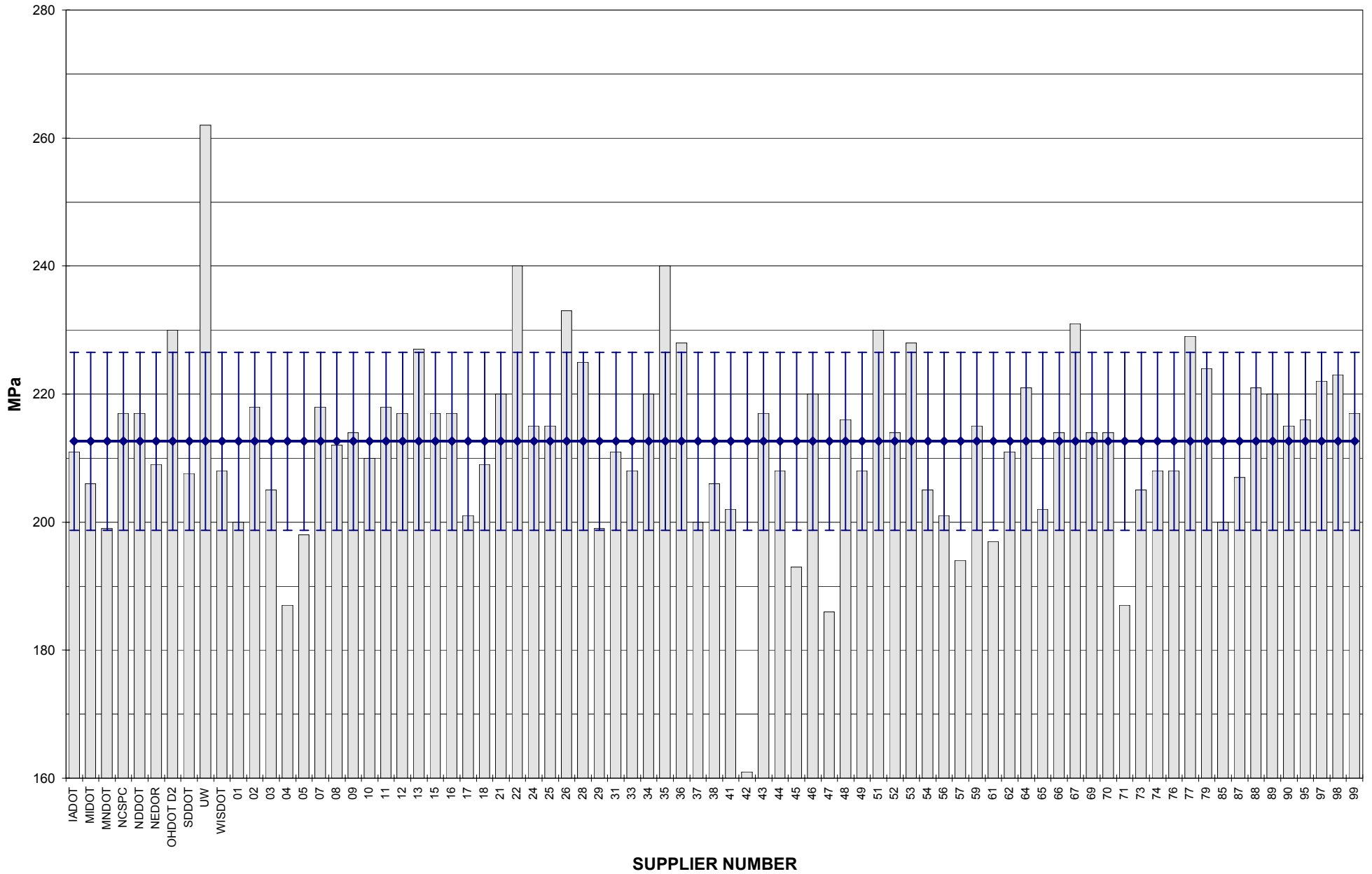
COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34
DSR - PAV



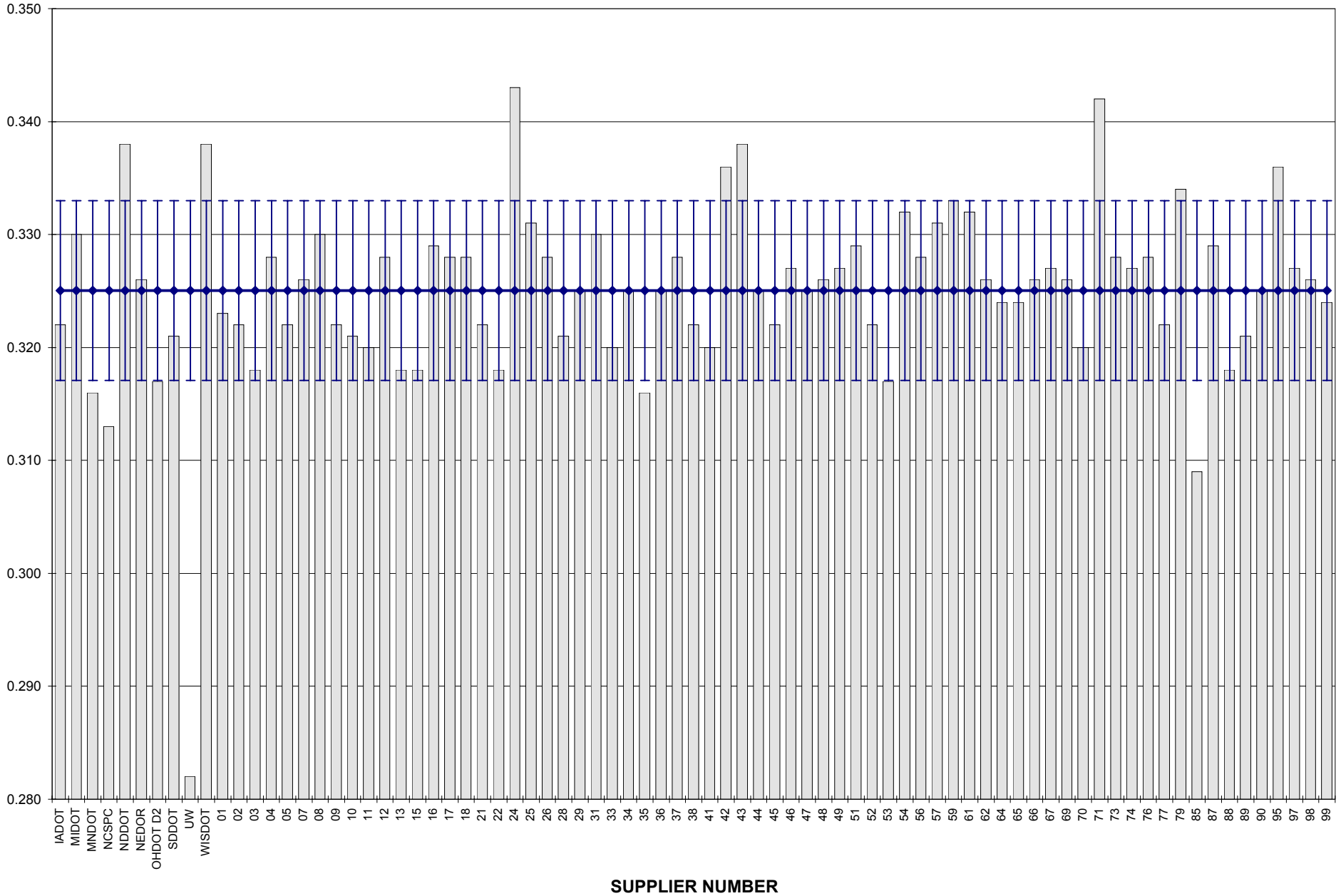
COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
 SUMMARY A
 PG 58-34
RTFO MASS LOSS



COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34
BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A
PG 58-34
BBR m-VALUE



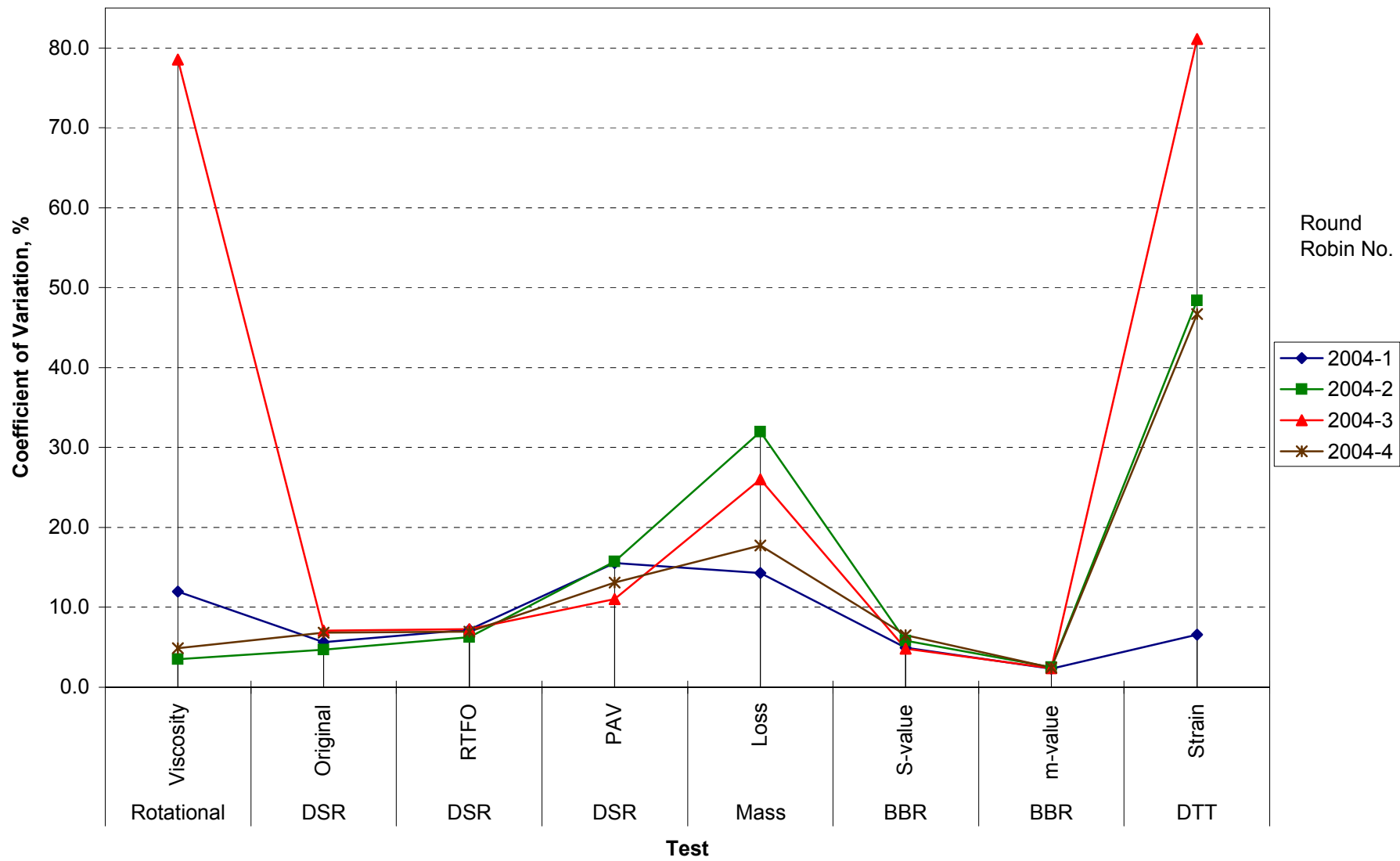
**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A**

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
2004-1	76	11.950	5.620	7.215	15.576	14.307	4.925	2.320	6.577
2004-2	78	3.511	4.720	6.292	15.755	31.939	5.857	2.514	48.402
2004-3	78	78.514	7.056	7.273	11.051	25.984	4.796	2.389	81.097
2004-4	79	4.914	6.823	6.930	13.070	17.755	6.535	2.449	46.703

**COMBINED STATE BINDER GROUP ROUND ROBIN 2004-4
SUMMARY A**

COEFFICIENT OF VARIATION



STATISTICS WITH OUTLIERS REMOVED:

	Rotational I Viscosity (Pa.s) @135°C	DSR Original (kPa) @58°C	DSR RTFO (kPa) @58°C	DSR PAV (kPa) @16°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-24°C	BBR m-value @-24°C
Average	0.5024	1.5057	3.4257	2,155.53	-0.9000	212.67	0.3256
Std. Dev.	0.0191	0.0590	0.2211	281.73	0.0792	11.45	0.0063
Coef. of V	3.799	3.915	6.455	13.070	8.795	5.383	1.939