



**Combined State Binder
Group**

Method of Acceptance for
Asphalt Binders

Round Robin 2006-4

Summary A

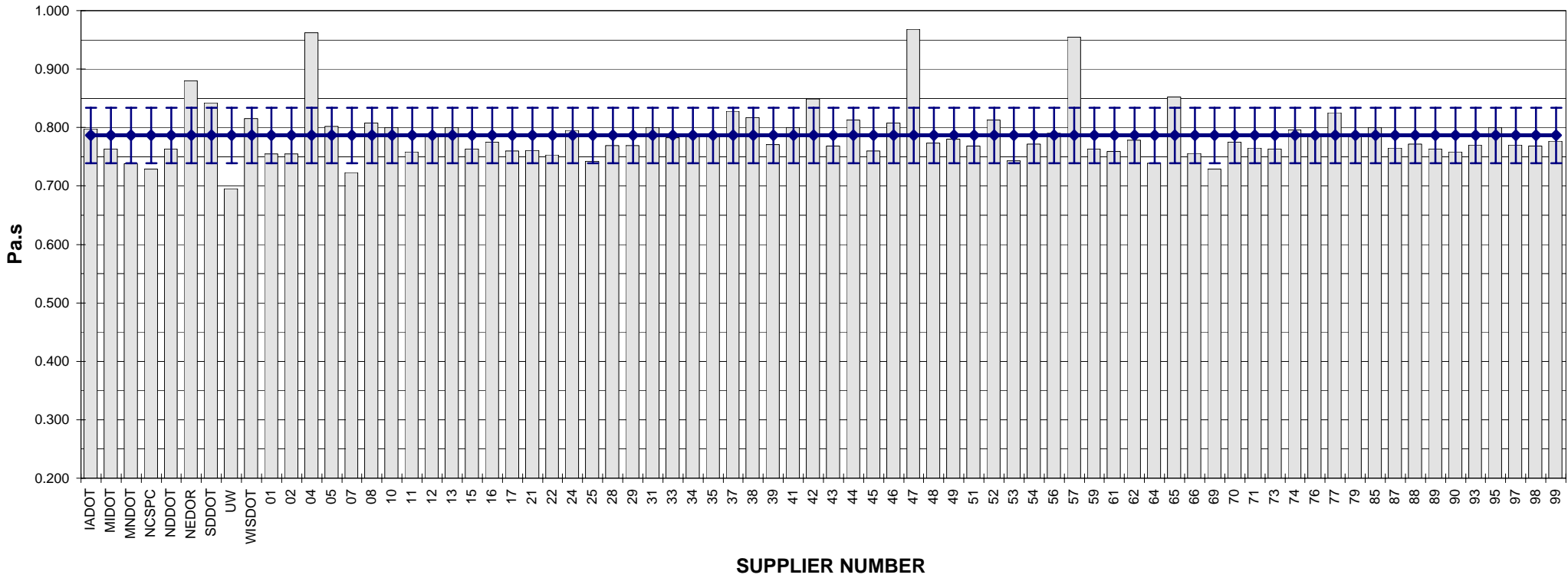
**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P**

Supplier Number	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @70°C	Phase Angle @70°C	DSR RTFO (kPa) @70°C	Elastic Recovery (%) @25°C	DSR PAV (kPa) @25°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	CRITICAL CRACK TEMP (°C)
IADOT	0.798	1.29	70.9	3.07	83	1,581	-0.110	213	0.317			
MIDOT	0.763	1.18	70.5	2.92	84	1,744	-0.343	195	0.328			
MNDOT	0.738	1.23	70.3	2.91		1,789	-0.341	185	0.311			
NCSPC	0.729	1.27	70.9	2.91		1,708	-0.341	194	0.314			
NDDOT	0.763	1.22	71.1	2.85	84	1,595	-0.344	195	0.328			
NEDOR	0.880	1.14	70.4	3.17	83	2,279	-0.339	213	0.316			
SDDOT	0.842	1.24	70.6	3.04	85	2,231	-0.364	226	0.305			
UW	0.695	1.14	70.4	3.14		2,224	-0.599	240	0.300			
WISDOT	0.815	1.16	70.0	2.82		1,464	-0.308	199	0.331			
01	0.755	1.38	70.3	3.68		1,745	-0.271	212	0.326			
02	0.755	1.27	70.3	2.80	85	1,394	-0.291	199	0.339			
04	0.962	1.25	70.3	2.82		1,721	-0.321	202	0.318			
05	0.802	1.27	70.2	2.88	85	1,728	-0.288	200	0.322			
07	0.723	1.21	70.9	2.72	85	2,174	-0.336	196	0.321			
08	0.808	1.19	70.4	2.81	85	1,955	-0.311	200	0.322			
10	0.800	1.31	70.3	3.01		1,634	-0.271	193	0.325			
11	0.758	1.28	70.2	3.00	87	1,543	-0.307	202	0.335			
12	0.786	1.24	70.7	2.60			-0.445					
13	0.800	1.18	70.3	2.73	85	1,727	-0.265	198	0.336			
15	0.763	1.18	70.5	3.09	85	1,535	-0.407	198	0.336			
16	0.775	1.19	70.0	2.93	75	1,858	-0.331	205	0.327			
17	0.760	1.34	70.5	3.54		1,733	-0.301	198	0.326			
21	0.761	1.21	70.6	3.11	85	1,836	-0.331	219	0.316			
22	0.753	1.22	70.6	2.81		1,759	-0.390	207	0.335			
24	0.795	1.21	69.8	3.14	84	1,830	-0.370	200	0.329	3.68	5.82	-32.3
25	0.742	1.14	70.8	2.87	85	2,217	-0.416	198	0.325			
28	0.769	1.28	70.2	2.85	85	1,771	-0.327	221	0.318			
29	0.769	1.30	70.1	2.72	85	1,903	-0.396	203	0.320			
31	0.800	1.18	70.2	2.91	85	1,690	-0.333	198	0.318			
33	0.783	1.28	70.0	3.08	84	1,730	-0.351	228	0.331			
34	0.789	1.26	70.2	3.04	85	1,594	-0.272	202	0.332			
35	0.787	1.26	70.3	3.13		1,662	-0.262	204	0.337			
37	0.828	1.12	70.6	2.41	83	1,858	-0.292	176	0.324	2.45	5.12	-31.3
38	0.817	1.19	70.5	2.79	81	1,648	-0.267	197	0.324			
39	0.771	1.24	70.6	2.92	84	655	-0.299	194	0.335			
41	0.800	1.18	70.3	2.78	85	1,553	-0.273	196	0.323			
42	0.849	1.34	69.8	3.24	85	1,640	-0.426	191	0.328			
43	0.768	1.27	70.4	2.92	87	1,755	-0.341	186	0.339			
44	0.813	1.16	70.4	2.87	80	1,713	-0.301	199	0.318			
45	0.760	1.43	70.0	3.61		1,815	-0.310	204	0.326			
46	0.808	1.34	70.4	3.08	63	1,756	-0.369	181	0.328			
47	0.968	1.21	70.6	2.88		1,741	-0.328	197	0.321			
48	0.773	1.27	70.3	3.13	86	1,585	-0.281	204	0.336			
49	0.780	1.23	70.4	3.22	85	1,780	-0.294	206	0.325			
51	0.768	1.18	70.5	3.01	83	1,751	-0.479	212	0.328			
52	0.813	1.12	70.2	2.79	81	1,742	-0.274	200	0.320			
53	0.743	1.20	69.3	2.85		1,775	-0.399	193	0.322			
54	0.772	1.20	70.6	3.08	84	1,212	-0.350	192	0.336			
56	0.790	1.31	69.9	2.92	85	1,559	-0.284	203	0.334			
57	0.955	1.25	70.6	2.88		1,748	-0.319	200	0.320	2.36	4.40	
59	0.763	1.15	70.9	2.35	86	2,202	-0.395	198	0.321			
61	0.759	1.29	69.3	2.96	85	1,690	-0.362	185	0.335			
62	0.778	1.30	70.1	2.46	86	1,433	-0.286	196	0.333			
64	0.739	1.26	69.0	2.74		1,518	-0.368	188	0.331			
65	0.852	1.32	70.2	2.73		1,981	-0.306	188	0.327			
66	0.756	1.22	70.2	3.15	85	1,888	-0.325	217	0.320			
69	0.729	1.22	70.8	2.68	84	2,167	-0.322	181	0.317	2.64	5.37	-30.9
70	0.775	1.28	69.9	2.75		1,611	-0.330	199	0.335			
71	0.765	1.22	70.7	3.09		1,735	-0.340	202	0.336			
73	0.763	1.16	71.1	2.76		1,210	-0.279	188	0.346			
74	0.796	1.19	70.4	2.72	85	1,582	-0.280	191	0.324			
76	0.788	1.21	70.3	3.00	85	1,625	-0.283	195	0.330			
77	0.825	1.22	70.5	3.62		1,648	-0.349	135	0.357			
79	0.787	1.28	70.4	3.02	85	1,799	-0.352	213	0.321			
85	0.800	1.21	70.3	2.53	85	1,559	-0.354	186	0.336			
87	0.765	1.23	70.5	3.05	84	1,613	-0.028	202	0.328			
88	0.772	1.22	70.6	3.11	85	849	-0.035	190	0.330			
89	0.763	1.18	70.6	3.01	85	1,570	-0.383	203	0.337			
90	0.758	1.22	70.5	2.79	85	1,708	-0.321	218	0.318			
93	0.770	1.12	70.4	2.71	84	1,771	-0.267	200	0.332			
95	0.800	1.24	70.8	3.21	86	1,600	-0.295	193	0.326			
97	0.770	1.20	70.4	2.91	83	1,805	-0.439	209	0.325			
98	0.768	1.20	70.3	2.99	83	1,967	-0.450	214	0.323			
99	0.777	1.26	70.4	2.86	85	1,798	-0.386	199	0.329			
Average	0.787	1.23	70.4	2.94	84	1,712	-0.326	200	0.327	2.783	5.18	
Std. Dev.	0.0475	0.0610	0.3678	0.2453	3.5219	266.40	0.0806	13.56	0.0089	0.610	0.59	
Coef. of Var.	6.040	4.957	0.523	8.340	4.201	15.562	24.755	6.799	2.734	21.909	11.47	

COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A

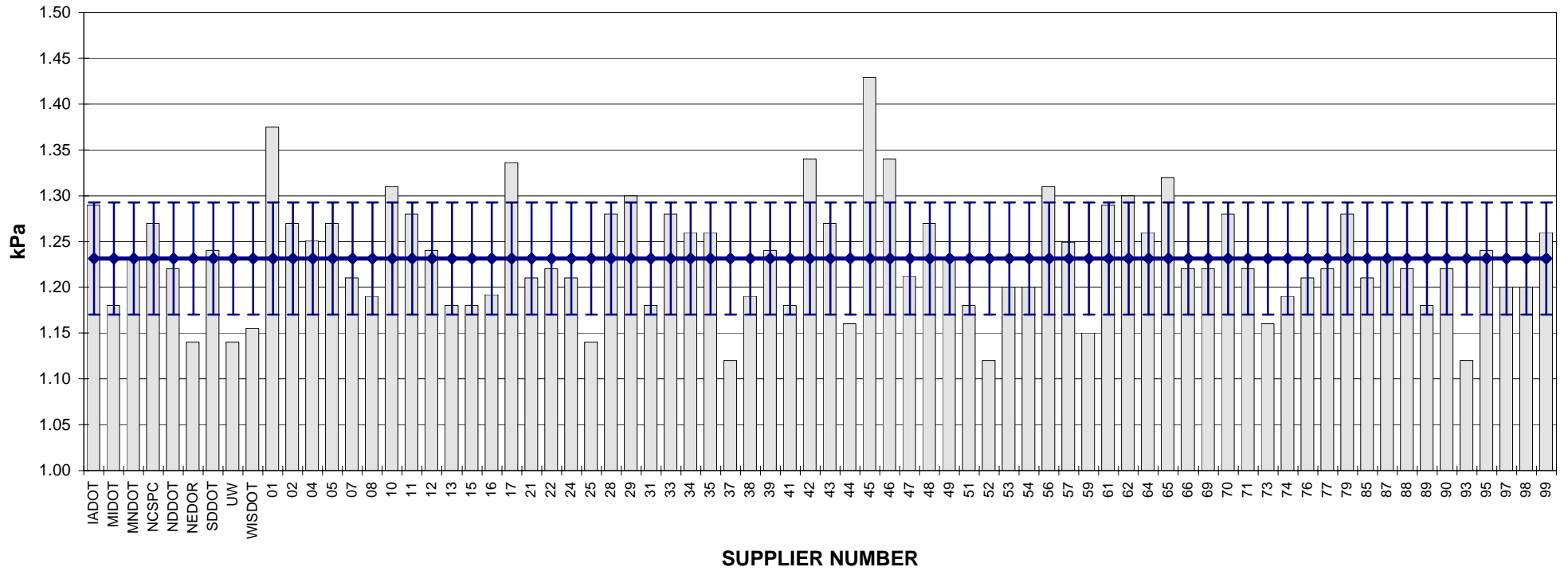
PG 70-28P

ROTATIONAL VISCOSITY



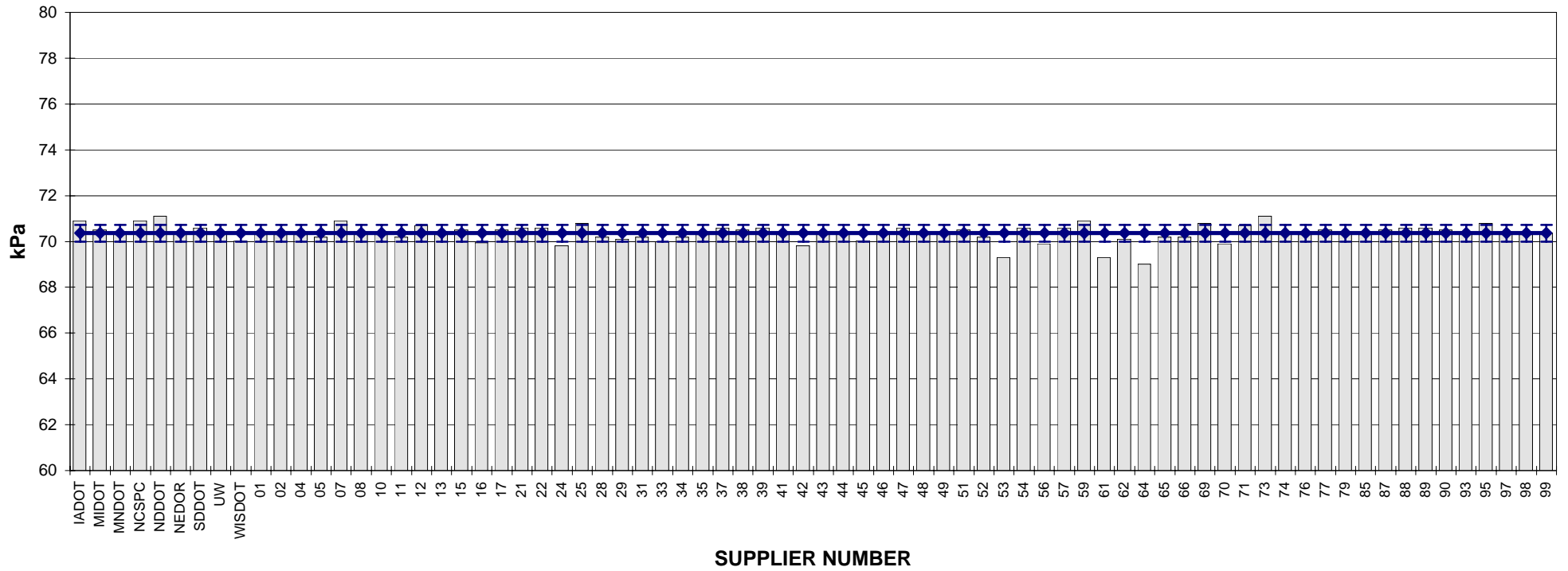
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P

DSR - ORIGINAL



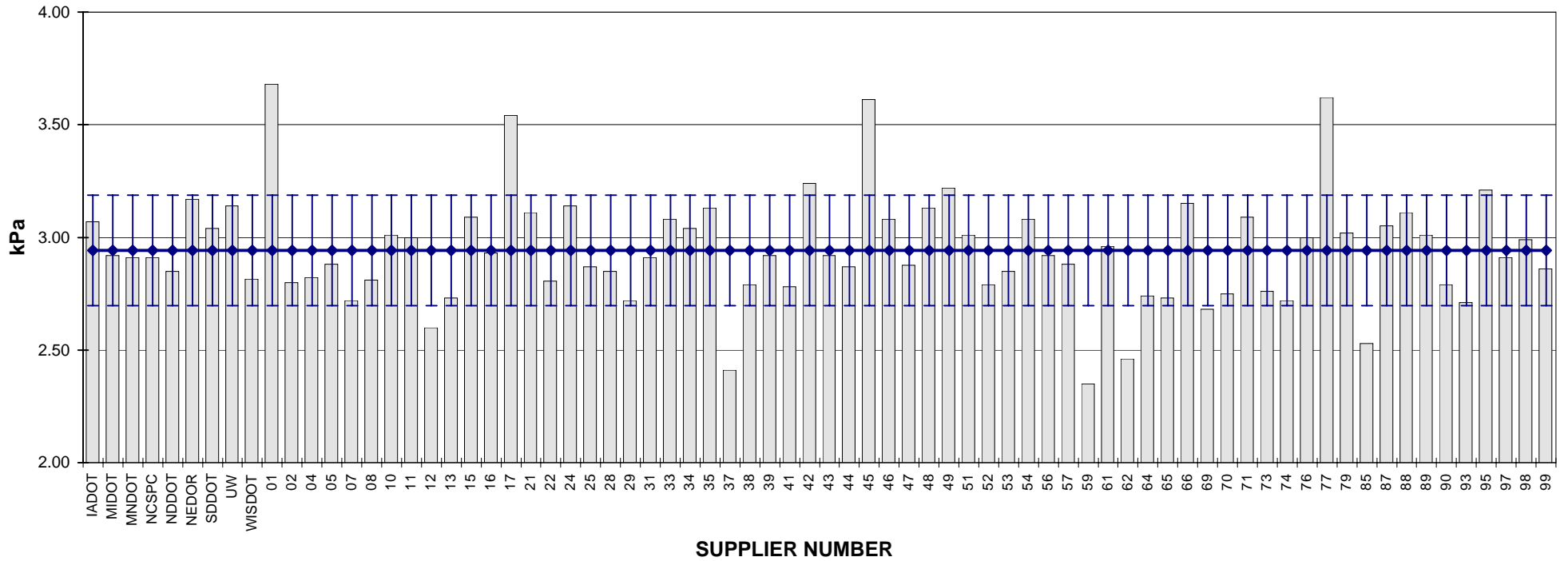
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P

DSR - PHASE ANGLE



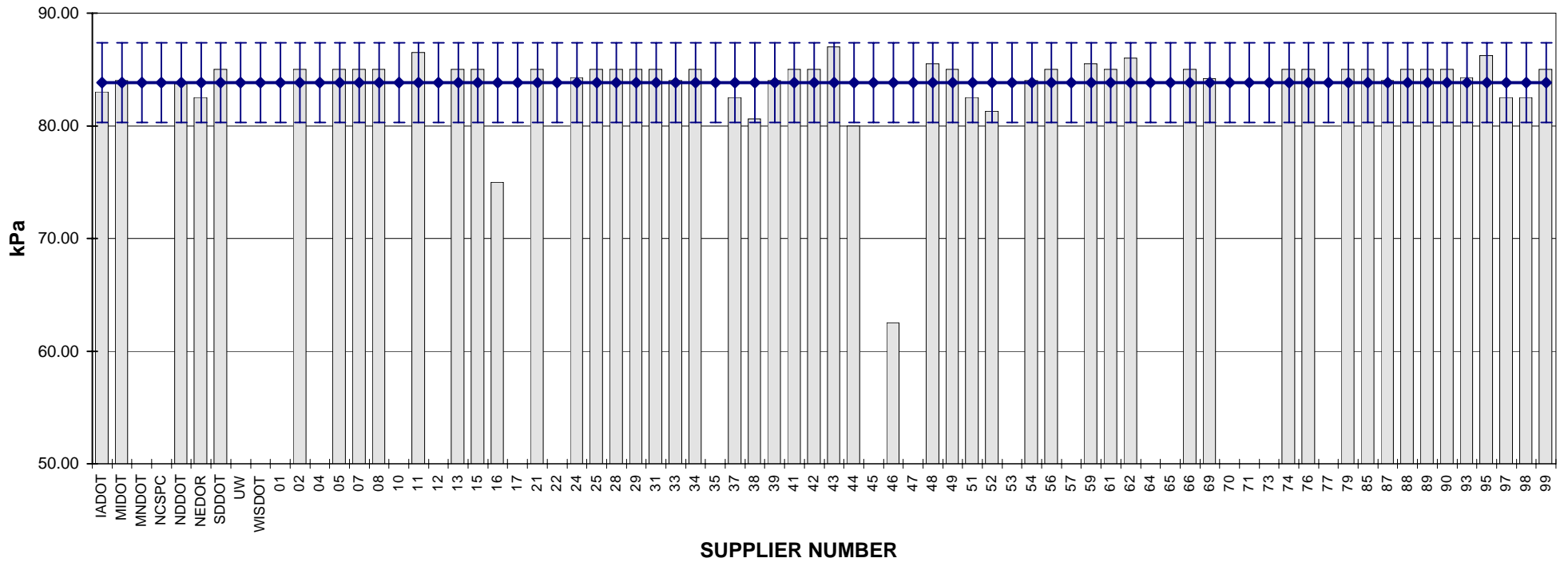
**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P**

DSR - RTFO

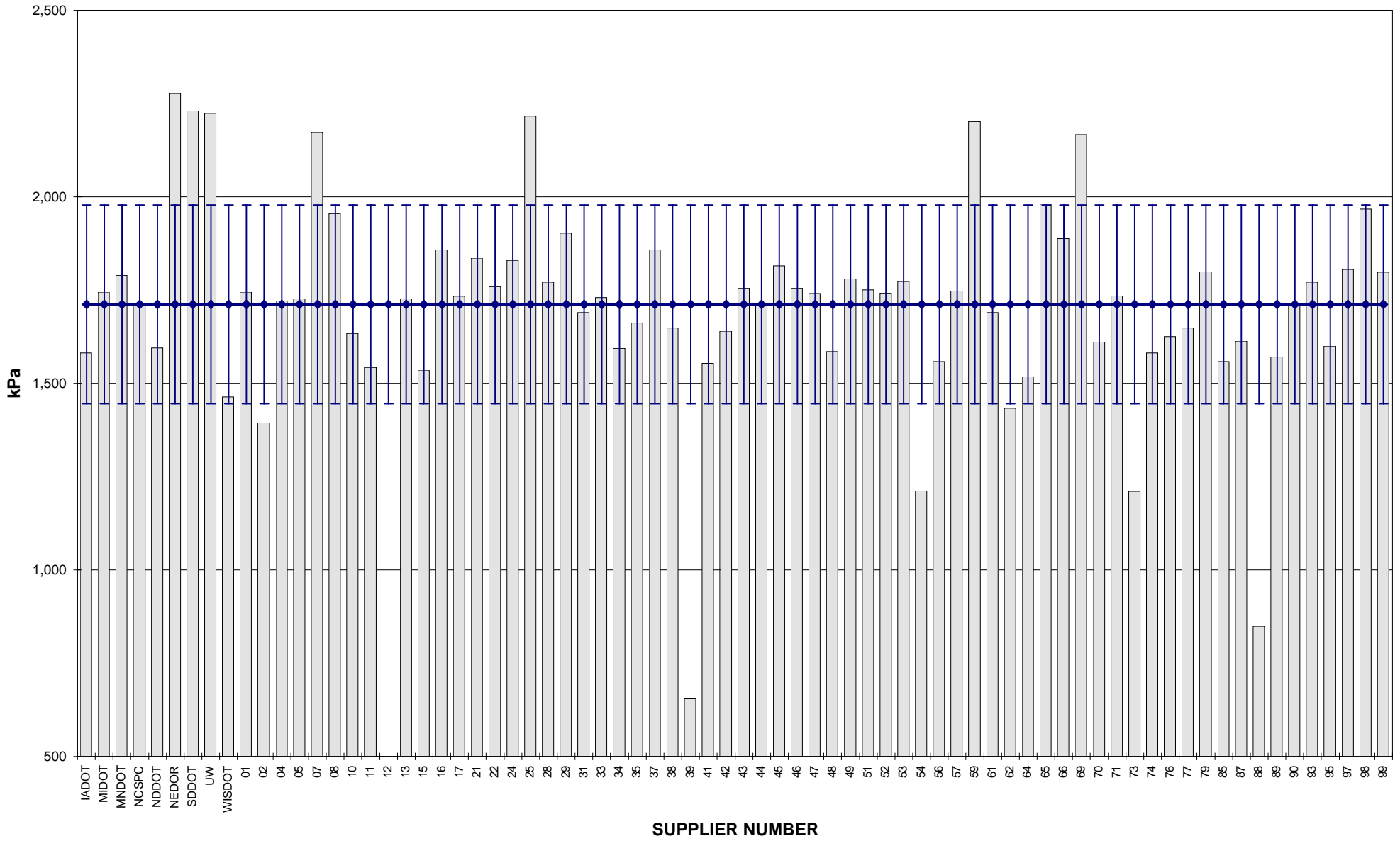


**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P**

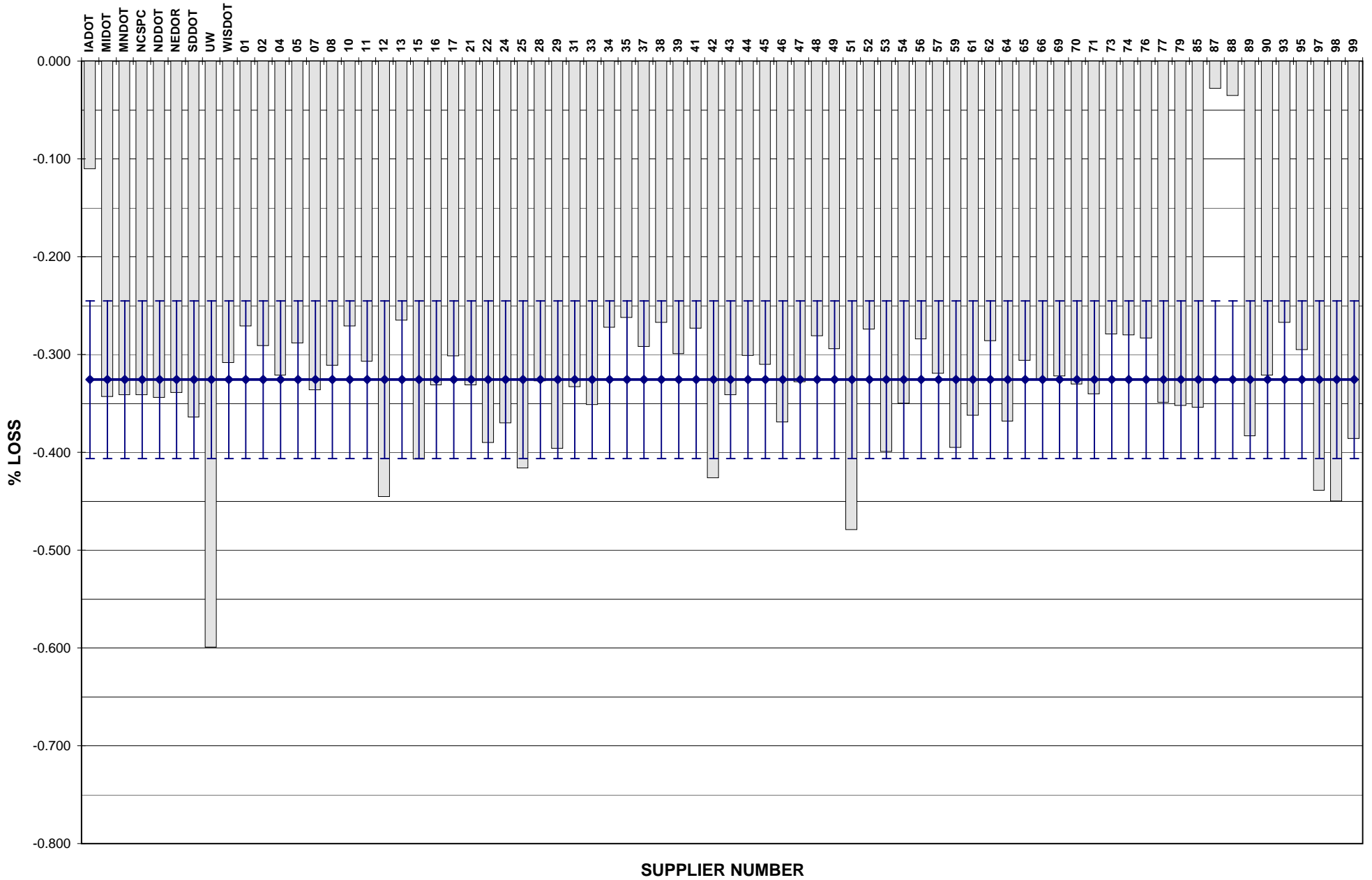
ELASTIC RECOVERY



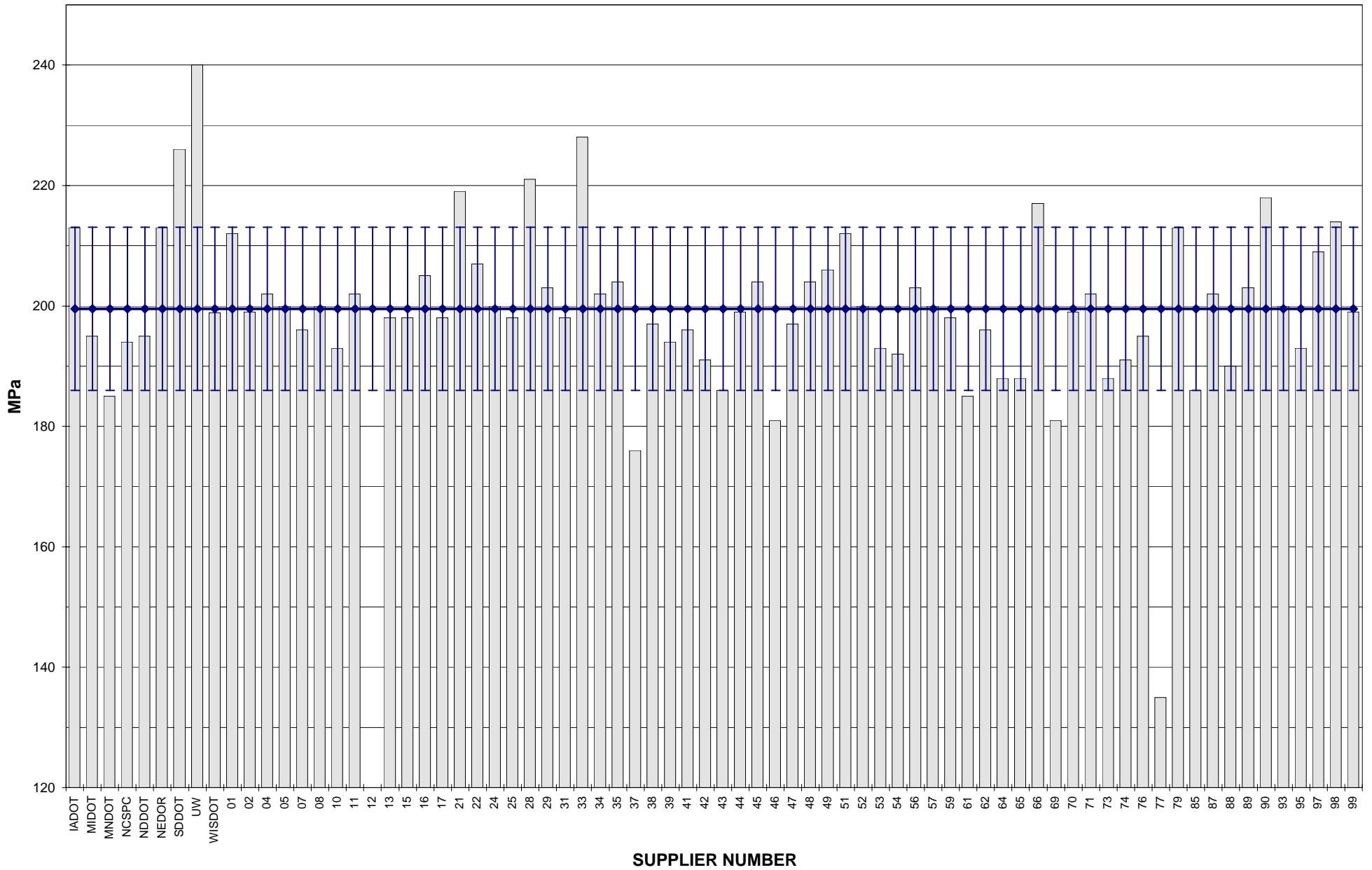
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P
DSR - PAV



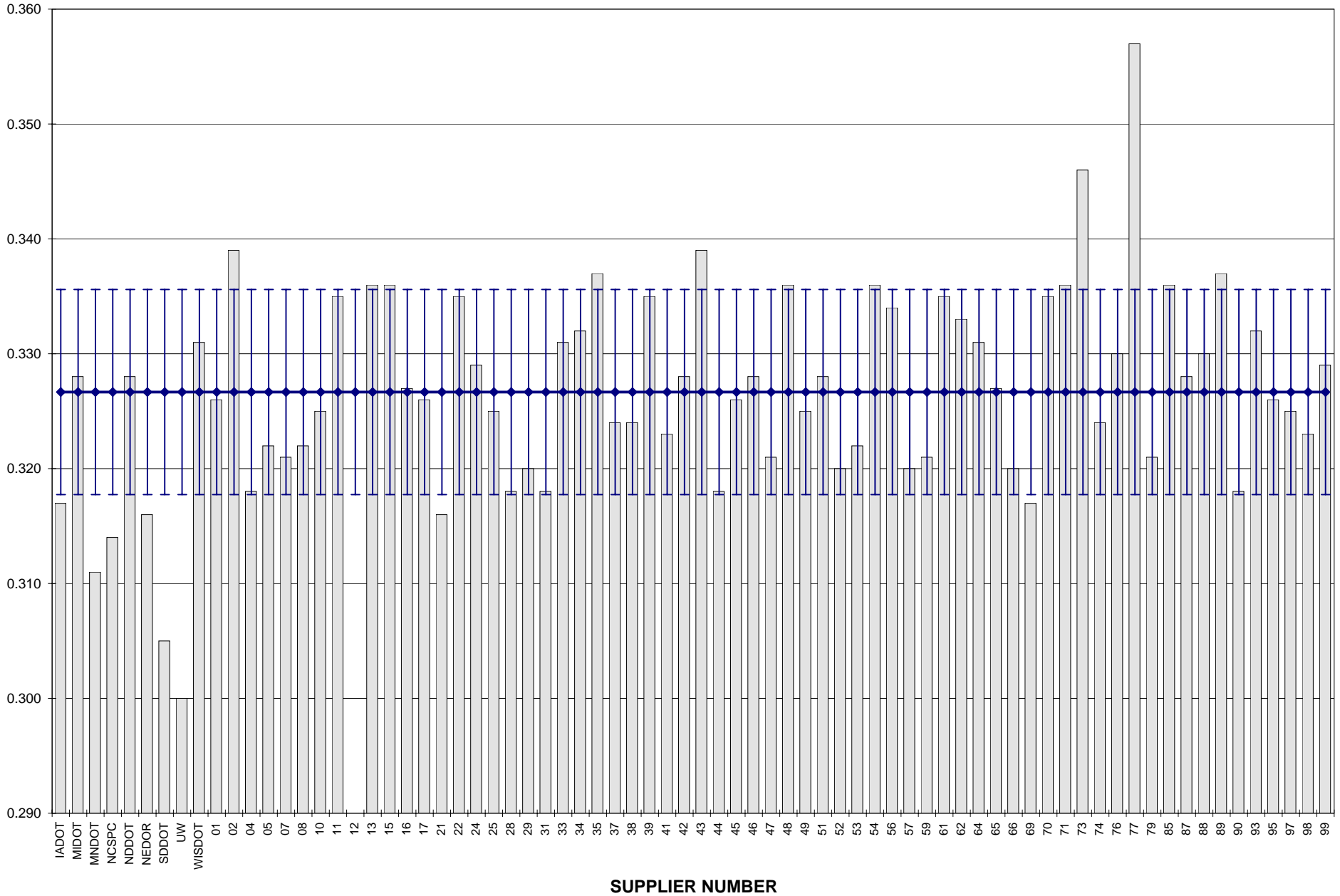
COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P
RTFO MASS LOSS



COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P
BBR STIFFNESS



COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P
BBR m-VALUE



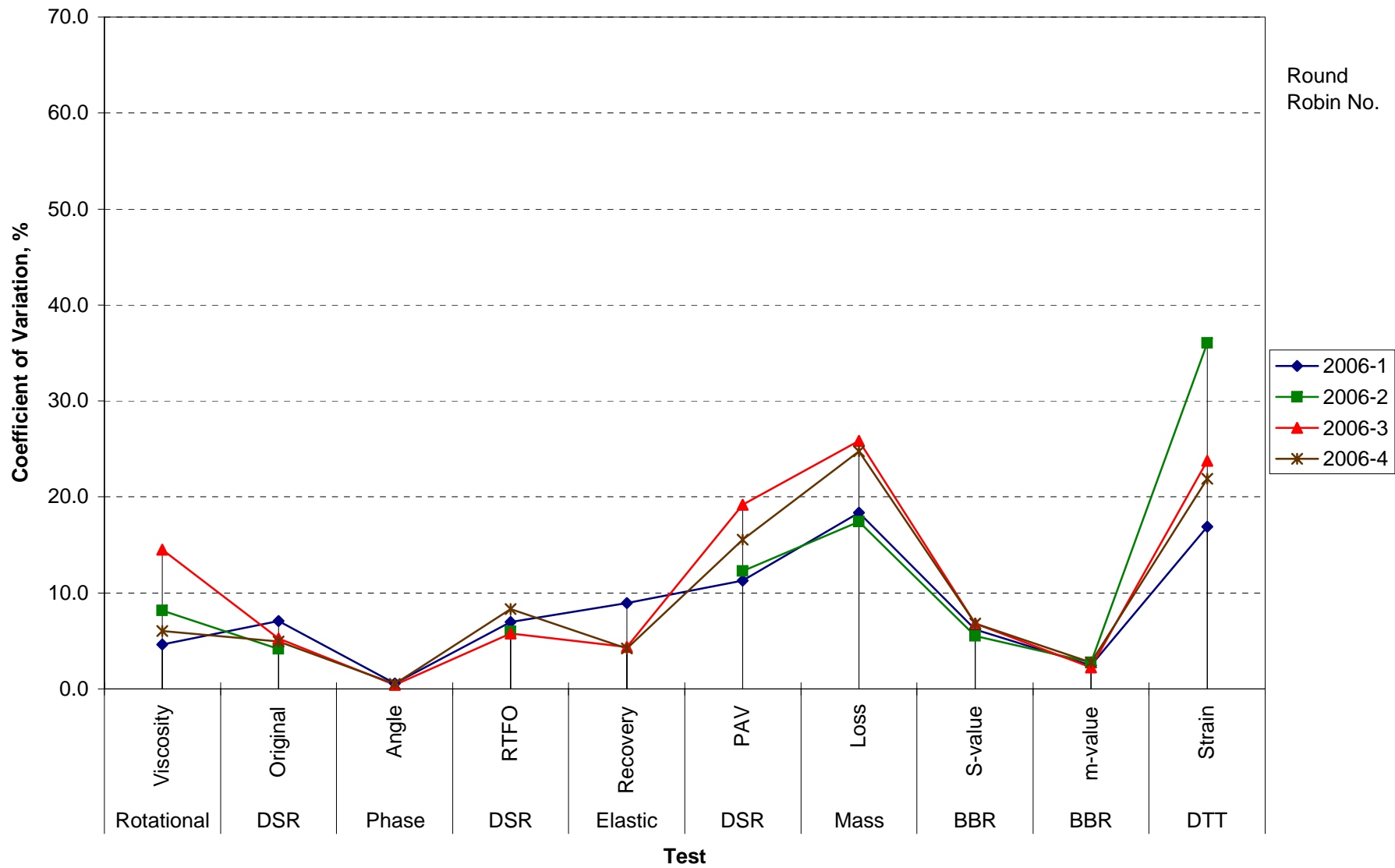
**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A**

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
2006-1	77	4.623	7.087	0.559	6.959	8.933	11.263	18.345	6.202	2.421	16.910
2006-2	77	8.182	4.138		5.992		12.270	17.442	5.496	2.752	36.040
2006-3	75	14.526	5.259	0.417	5.762	4.346	19.183	25.848	6.829	2.219	23.743
2006-4	74	6.040	4.957	0.523	8.340	4.201	15.562	24.755	6.799	2.734	21.909

**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A**

COEFFICIENT OF VARIATION



**COMBINED STATE BINDER GROUP ROUND ROBIN 2006-4
SUMMARY A
PG 70-28P**

STATISTICS WITH OUTLIERS REMOVED:

	Rotational Viscosity (Pa.s) @135°C	DSR Original (kPa) @70°C	Phase Angle	DSR RTFO (kPa) @70°C	Elastic Recovery (%)	DSR PAV (kPa) @25°C	Mass Loss (%) @163°C	BBR S-value (MPa) @-18°C	BBR m-value @-18°C
Average	0.7790	1.2288	70.3622	2.9415	84.4255	1,738.95	-0.3302	199.84	0.3266
Std. Dev.	0.0276	0.0568	0.3678	0.2453	1.3709	213.68	0.0567	10.31	0.0077
Coef. of Var.	3.539	4.624	0.523	8.340	1.624	12.288	17.186	5.158	2.346