

COMBINED STATE BINDER GROUP ROUND ROBIN 2014-4 SUMMARY B
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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	Jnr @ 100 Pa @ 58°C	% Recov. @ 100 Pa @ 58°C	Jnr @ 3200 Pa @ 58°C	% Recov. @ 3200 Pa @ 58°C
IADOT	0.518	1.17	2.63	2180	-0.805	272	0.328	1.200	52.08	1.692	35.16
MNDOT	0.700	1.24	2.93	2350	-0.785	266	0.332	1.075	53.29	1.547	36.02
NCSPC	0.513	1.21	3.30	2430	-1.002	338	0.322	0.916	53.63	1.197	41.47
NDDOT	0.490	1.23	2.92	2376	-0.935	288	0.336	1.094	52.87	1.572	35.86
NEDOR	0.477	1.20	3.11	2438	-0.825	273	0.335	1.040	51.94	1.374	39.10
SDDOT	0.621	1.22	2.90	2076	-0.627	274	0.367	1.157	50.43	1.522	37.83
UW	0.537	1.19	3.04	2112	-0.888	321	0.324	1.029	51.68	1.317	40.01
WISDOT	0.545	1.26	3.07	2521	-0.737	282	0.344	1.207	47.74	1.593	34.24
07	0.523	1.21	2.82	1910	-0.804	286	0.331	1.260	48.02	1.720	33.52
12	0.497	1.20	2.90	2805	-1.044	288	0.318				
29	0.488	1.18	2.87	2595	-0.877	269	0.334	1.162	51.04	1.641	34.02
35	0.533	1.20	3.00	2237	-0.769	239	0.358				
37	0.470	1.21	2.49	2832	-0.758	270	0.333	1.504	46.52	2.065	31.42
42	0.505	1.19	3.00	2370	-0.875	263	0.339	1.033	53.86	1.485	36.76
43											
49	0.488	1.19	2.84	2210	-0.889	258	0.339	1.096	53.57	1.629	35.99
60	0.540	1.17	2.70	2490	-0.898	265	0.339	1.010	51.17	1.321	38.68
65	0.350	1.29	3.28	3354	-0.156	239	0.339	0.992	53.40	1.311	40.90
69	0.523	1.24	2.75	2075	-0.749	270	0.337	1.370	44.76	1.740	34.12
70	0.488	1.25	2.94	2489	-0.771	287	0.345	1.190	49.17	1.573	35.73
77	0.490	1.22	3.09	2690	-0.879	259	0.343	1.115	50.05	1.479	36.71
83	0.550	1.18	3.04	2327	-0.797	278	0.333	1.083	50.70	1.430	37.83
84	0.518	1.21	2.95	2700	-0.800	274	0.342	1.031	54.85	1.487	37.63
94	0.517	1.24	2.72	2323	-0.888			1.250	50.54	1.800	33.56
95	0.525	1.20	2.84	2490	-0.671	276	0.332	1.230	49.70	1.650	35.70
A	0.488	1.18	2.91	2307	-0.755	272	0.345	1.155	49.30	1.540	35.40
B	0.530	1.29	3.51	2171	-0.812	254	0.329	0.853	54.10	1.110	42.32
C	0.478	1.22	3.69	2808	-0.735	331	0.317	1.145	49.37	1.480	37.82
E	0.525	1.20	3.07	2560	-0.822	274	0.328	1.085	50.37	1.460	36.77
F	0.505	1.23	3.08	2,375	-0.825	293	0.334	1.091	50.68	1.442	37.72
J	0.503	1.20	2.94	2343	-0.884	266	0.331	1.099	51.14	1.471	37.34
L	0.503	1.17	3.28	2465	-0.473	279	0.334	0.965	54.02	1.315	39.89
M	0.492	1.23	2.89	2094	-0.758	257	0.349	1.231	47.50	1.587	35.33
O	0.498	1.19	2.80	2,445	-0.722	281	0.336	1.245	49.18	1.662	35.02
P	0.508	1.22	2.92	2420	-0.847	277	0.333				
Q	0.491	1.22	3.03	1925	-0.777	269	0.352	1.015	54.39	1.440	38.20
S	0.481	1.22	2.82	2245	-0.865	246	0.347	1.215	49.64	1.640	35.26
U	0.489	1.20	2.90	2211	-0.742	256	0.344	1.063	53.73	1.540	36.82
V	0.505	1.20	3.17	2292	-1.016	283	0.341	0.954	53.80	1.340	38.14
Average	0.511	1.21	2.98	2,396	-0.796	275	0.337	1.119	51.09	1.519	36.81
Std. Dev.	0.0492	0.0290	0.2271	276.4683	0.1496	21.0805	0.0101	0.1288	2.4697	0.1809	2.3952
Coef. of Var.	9.629	2.391	7.628	11.540	18.785	7.669	3.003	11.508	4.834	11.910	6.507

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A	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
19	0.485	1.20	2.78	2391	-0.868	273	0.344	1.250	47.80	1.670	33.50
51	0.488	1.17	3.07	2330	-0.849	274	0.345	1.080	50.00	1.420	36.60
97	0.490	1.19	2.90	2229	-0.653	267	0.348	1.130	49.80	1.510	36.10
98	0.489	1.17	2.87	2277	-0.649	272	0.343	1.160	49.60	1.560	35.40
Average	0.488	1.18	2.91	2,307	-0.755	272	0.345	1.155	49.30	1.540	35.40

B	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
01	0.512	1.31	3.71	2479	-0.844	252	0.326	0.830	53.86	1.060	42.97
17	0.547	1.27	3.26	1384	-0.797	252	0.332	0.940	52.58	1.230	40.33
45	0.532	1.28	3.56	2649	-0.795	257	0.330	0.790	55.86	1.040	43.66
Average	0.530	1.29	3.51	2,171	-0.812	254	0.329	0.853	54.10	1.110	42.32

C	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
28	0.476	1.22	3.91	2889	-0.734	342	0.318	1.160	49.18	1.510	37.41
66	0.486	1.24	3.61	2873	-0.728	333	0.321	1.130	49.82	1.470	38.01
90	0.467	1.24	3.36	2754	-0.758	314	0.316	1.230	48.11	1.580	36.76
99	0.481	1.18	3.86	2716	-0.718	335	0.312	1.060	50.37	1.360	39.10
Average	0.478	1.22	3.69	2808	-0.735	331	0.317	1.145	49.37	1.480	37.82

E	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
15	0.517	1.20	3.03	2580	-0.833	272	0.327	1.090	50.76	1.470	36.74
89	0.533	1.19	3.11	2540	-0.810	276	0.328	1.080	49.97	1.450	36.79
Average	0.525	1.20	3.07	2560	-0.822	274	0.328	1.085	50.37	1.460	36.77

F	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
02	0.520	1.24	3.30	2450	-0.823	306	0.329	0.983	51.63	1.290	39.28
11	0.497	1.19	3.35	2560	-0.818	306	0.330	0.973	51.64	1.280	39.26
34	0.497	1.24	3.06	2280	-0.687	269	0.340	1.080	51.21	1.420	38.37
48	0.490	1.23	2.74	2090	-0.713	286	0.347	1.290	48.71	1.730	34.42
56	0.509	1.24	3.05	2460	-0.922	297	0.326	1.090	50.84	1.450	37.50
62	0.514	1.23	2.99	2410	-0.988	293	0.334	1.130	50.05	1.480	37.48
Average	0.505	1.23	3.08	2,375	-0.825	293	0.334	1.091	50.68	1.442	37.72

J	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
05	0.503	1.20	2.93	2352	-0.850	275	0.334	1.150	50.66	1.490	37.10
08	0.503	1.19	2.94	2444	-0.975	266	0.327	1.070	51.50	1.430	37.67
10	0.505	1.19	2.93	2378	-0.804	261	0.332	1.100	51.53	1.460	37.93
22	0.503	1.18	3.00	2339	-0.970	266	0.333	1.060	51.68	1.430	37.89
31	0.499	1.19	2.90	2275	-0.808	257	0.330	1.110	51.00	1.520	36.66
41	0.503	1.20	2.99	2290	-0.941	260	0.331	1.090	50.83	1.450	37.63
44	0.506	1.20	2.89	2318	-0.822	266	0.336	1.140	50.47	1.530	36.61
52	0.503	1.22	2.90	2358	-0.820	266	0.328	1.120	50.65	1.500	36.85
87	0.502	1.20	2.99	2329	-0.964	276	0.330	1.050	51.97	1.430	37.76
Average	0.503	1.20	2.94	2343	-0.884	266	0.331	1.099	51.14	1.471	37.34

L	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
25	0.460	1.12	3.64	2609	-0.871	286	0.334	0.770	57.68	1.080	42.77
59	0.545	1.21	2.92	2321	-0.074	272	0.334	1.160	50.36	1.550	37.01
Average	0.503	1.17	3.28	2465	-0.473	279	0.334	0.965	54.02	1.315	39.89

M	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
04	0.525	1.27	2.87	2033	-0.786	260	0.348	1.254	47.20	1.637	34.30
47	0.503	1.27	2.95	2148	-0.772	260	0.344	1.120	49.00	1.432	37.40
57	0.448	1.16	2.84	2102	-0.716	251	0.354	1.320	46.30	1.693	34.30
Average	0.492	1.23	2.89	2094	-0.758	257	0.349	1.231	47.500	1.587	35.333

O	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
76	0.498	1.20	2.77	2390	-0.721	283	0.338	1.240	49.61	1.644	35.73
85	0.498	1.18	2.82	2500	-0.723	279	0.334	1.250	48.75	1.680	34.30
Average	0.498	1.19	2.80	2445	-0.722	281	0.336	1.245	49.18	1.662	35.02

P	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
30	0.508	1.22	2.92	2420	-0.847	277	0.333				
68											
71											
73											
Average	0.508	1.22	2.92	2420	-0.847	277	0.333	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

Q	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
23	0.498	1.26	3.03	1965	-0.789	278	0.354	1.010	54.54	1.430	38.36
93	0.483	1.18	3.03	1884	-0.765	259	0.349	1.020	54.24	1.450	38.03
Average	0.491	1.22	3.03	1925	-0.777	269	0.352	1.015	54.39	1.440	38.20

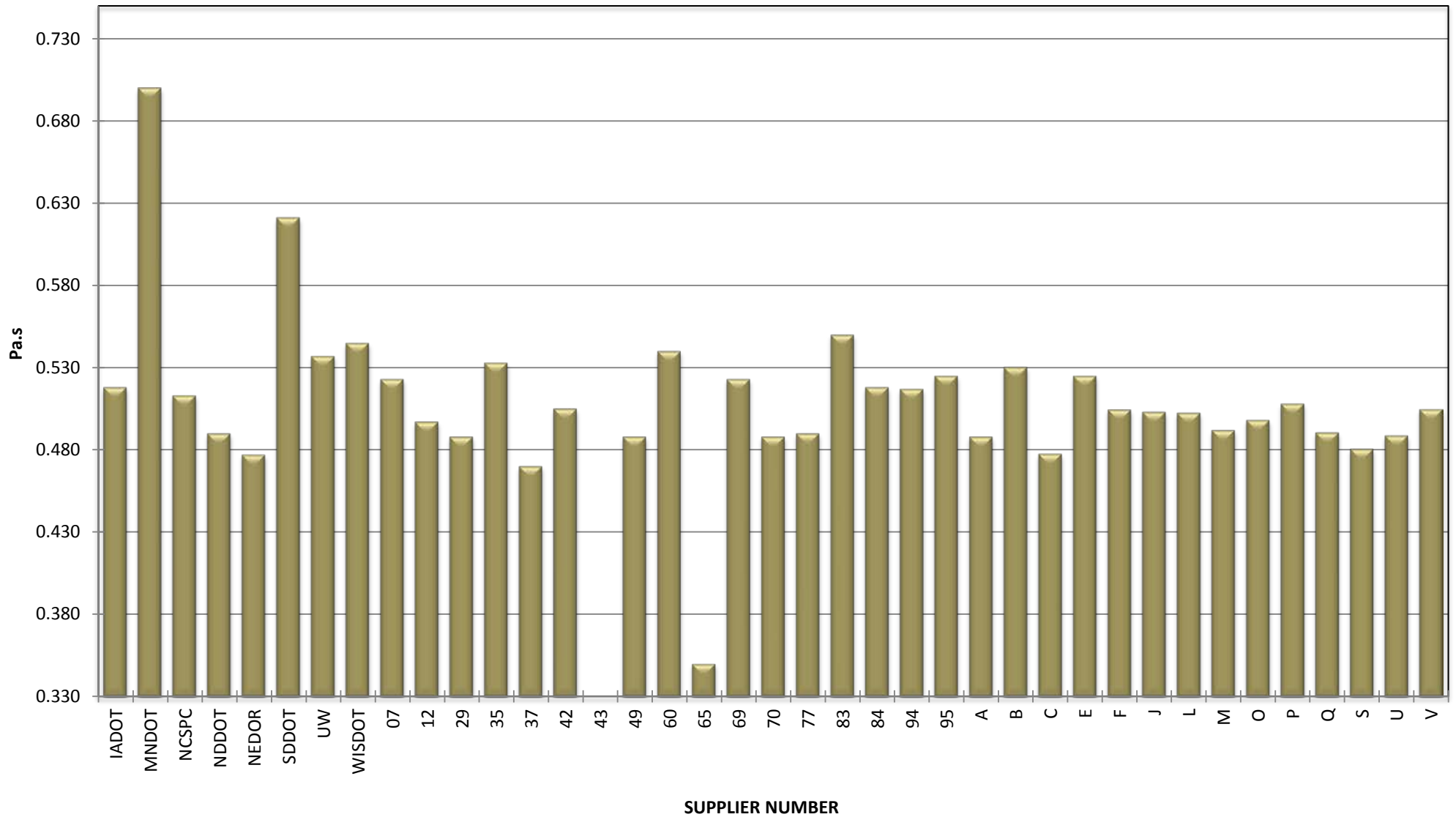
S	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
53	0.483	1.22	2.83	2270	-0.882	246	0.347	1.220	49.43	1.640	35.10
64	0.478	1.22	2.81	2220	-0.847	246	0.346	1.210	49.85	1.640	35.41
Average	0.481	1.22	2.82	2245	-0.865	246	0.347	1.215	49.64	1.640	35.26

U	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
13	0.493	1.20	2.79	2450	-0.731	267	0.338	1.050	54.32	1.580	36.49
24	0.490	1.22	2.89	2300	-0.730	242	0.344	1.120	52.63	1.590	35.95
93	0.483	1.18	3.03	1884	-0.765	259	0.349	1.020	54.24	1.449	38.03
Average	0.489	1.20	2.90	2211	-0.742	256	0.344	1.063	53.73	1.540	36.82

V	Rot. Visc.	ODSR	RTFO DSR	PAVDSR	Mass Loss	S-value	m-value	Jnr @ 100 Pa	% Rec. 100 Pa	Jnr @ 3200 Pa	% Rec. @ 3200 Pa
58	0.503	1.20	3.18	2240	-1.050	280	0.342	0.855	54.96	1.200	39.87
78	0.505	1.20	3.12	2375	-0.989	282	0.340	1.060	51.84	1.480	35.84
81	0.506	1.21	3.22	2260	-1.010	286	0.341	0.948	54.61	1.340	38.72
Average	0.505	1.20	3.17	2292	-1.016	283	0.341	0.954	53.803	1.340	38.143

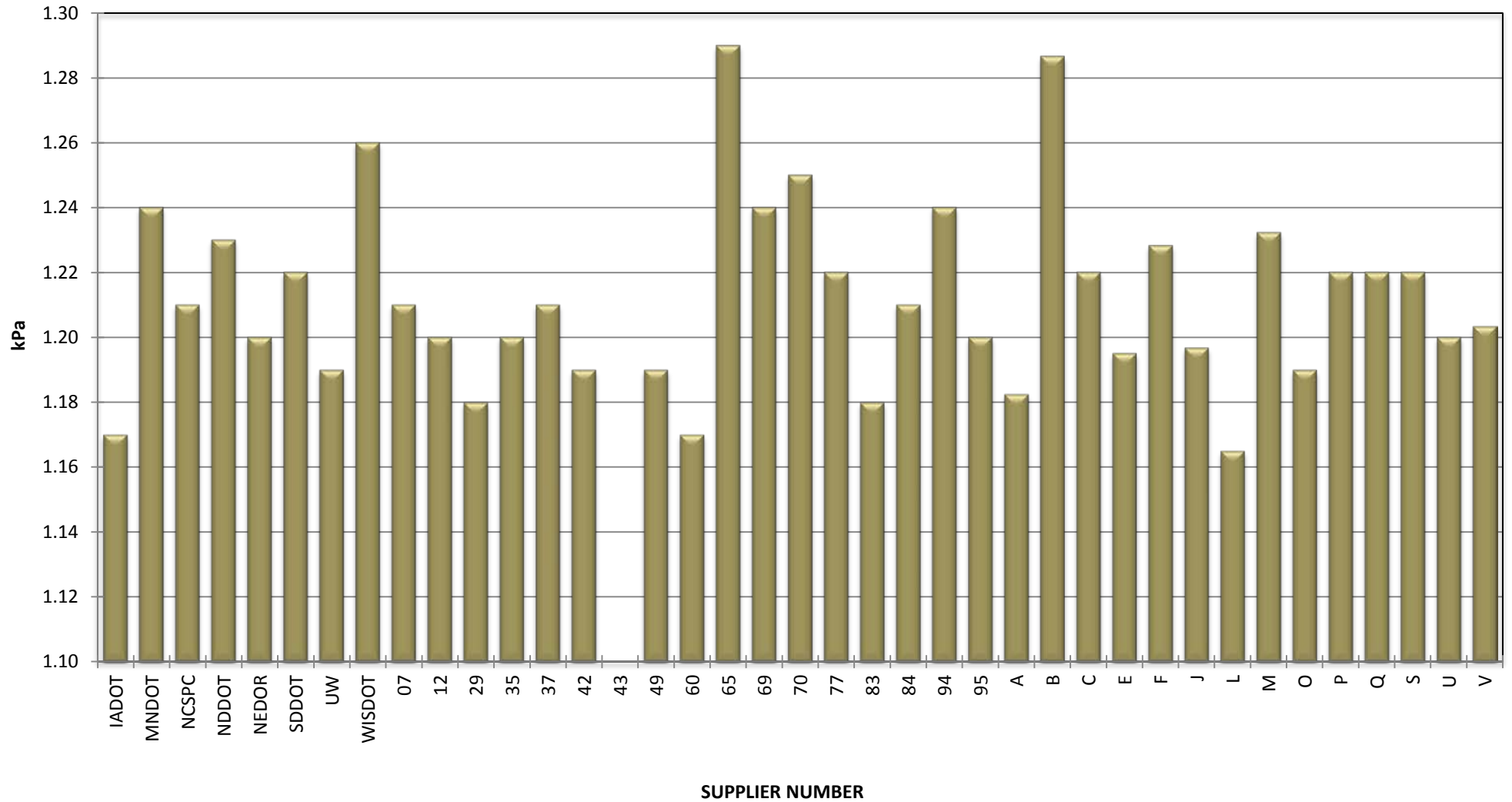
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ROTATIONAL VISCOSITY



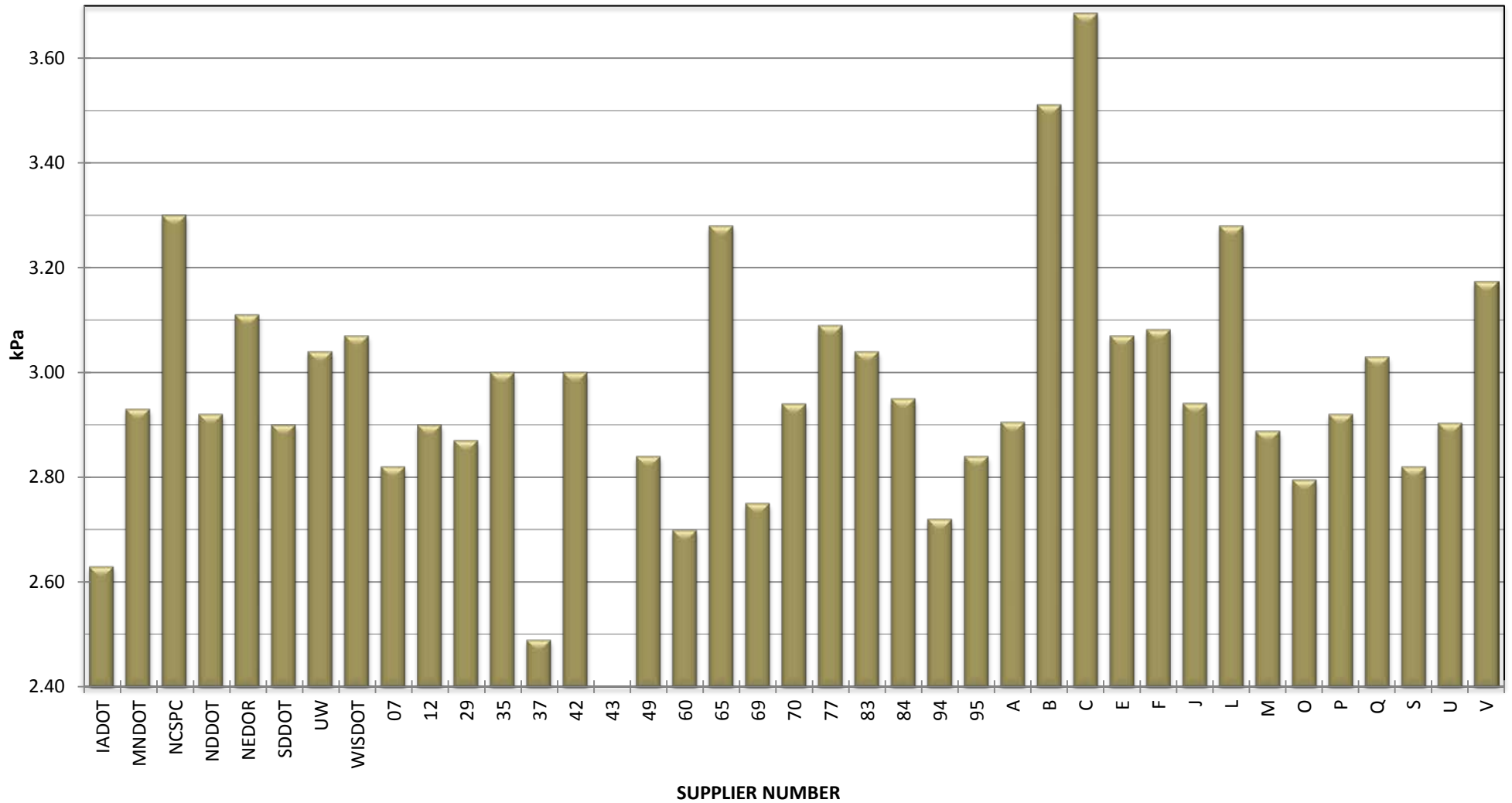
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DSR - ORIGINAL



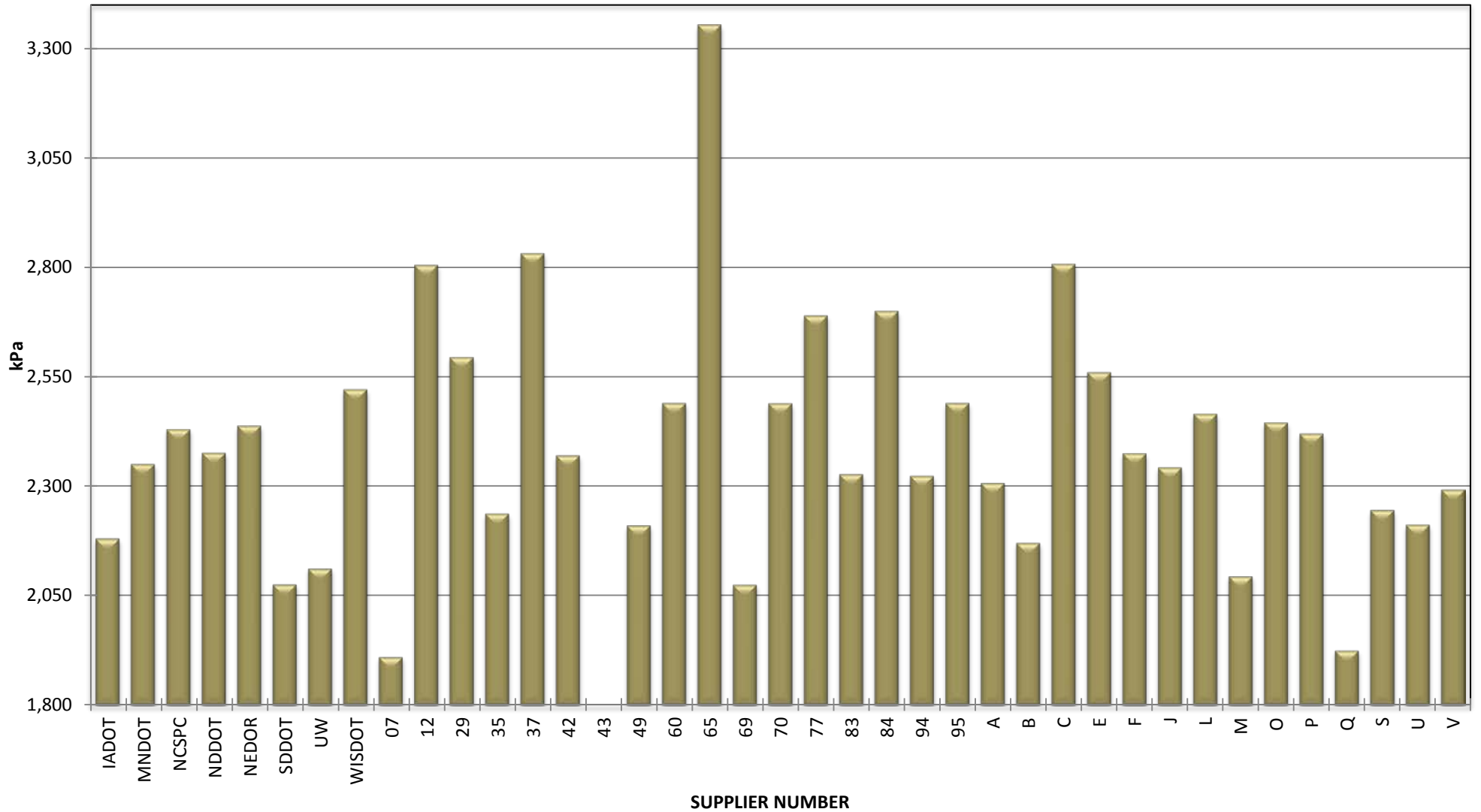
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DSR - RTFO

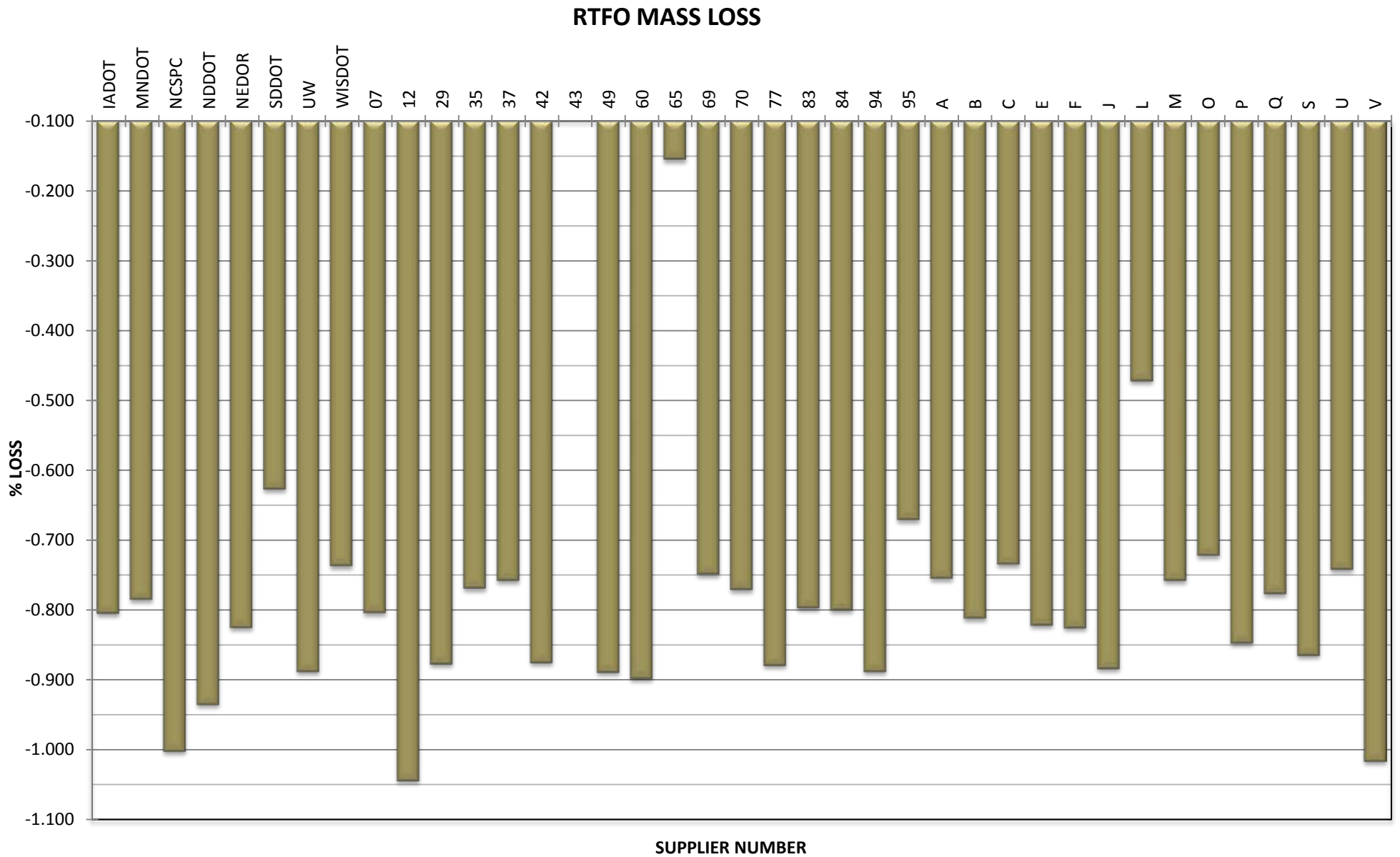


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DSR - PAV

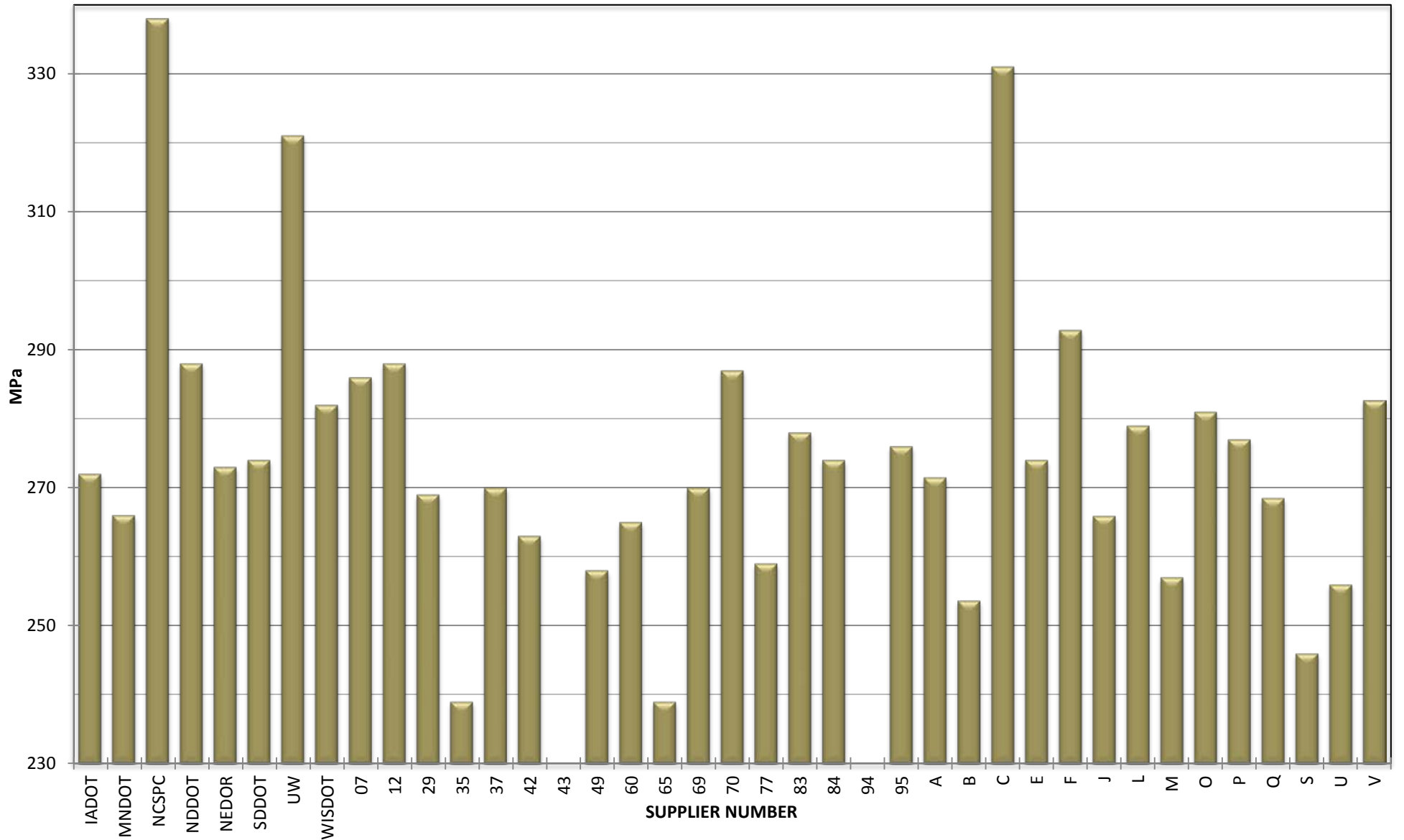


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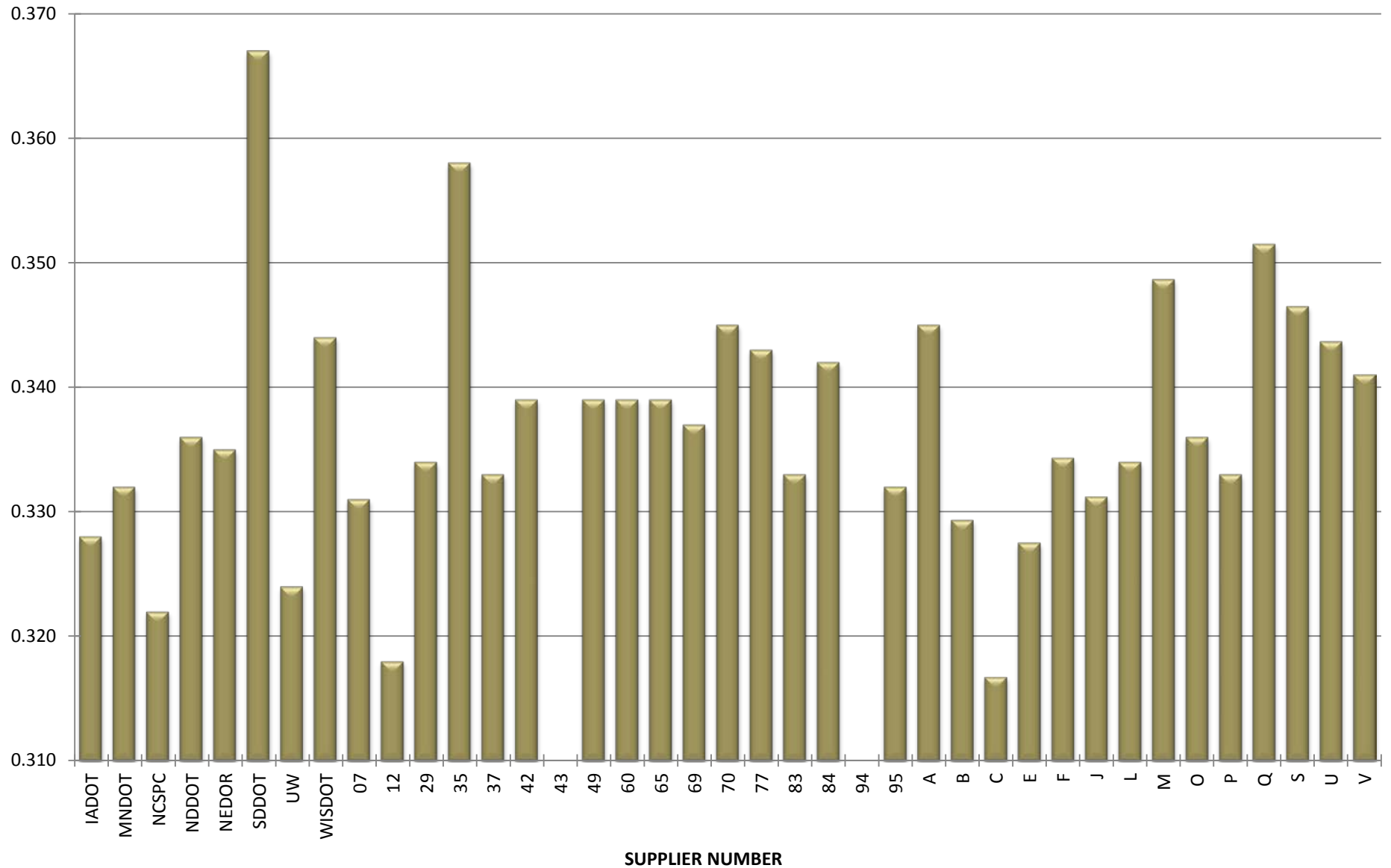
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BBR STIFFNESS



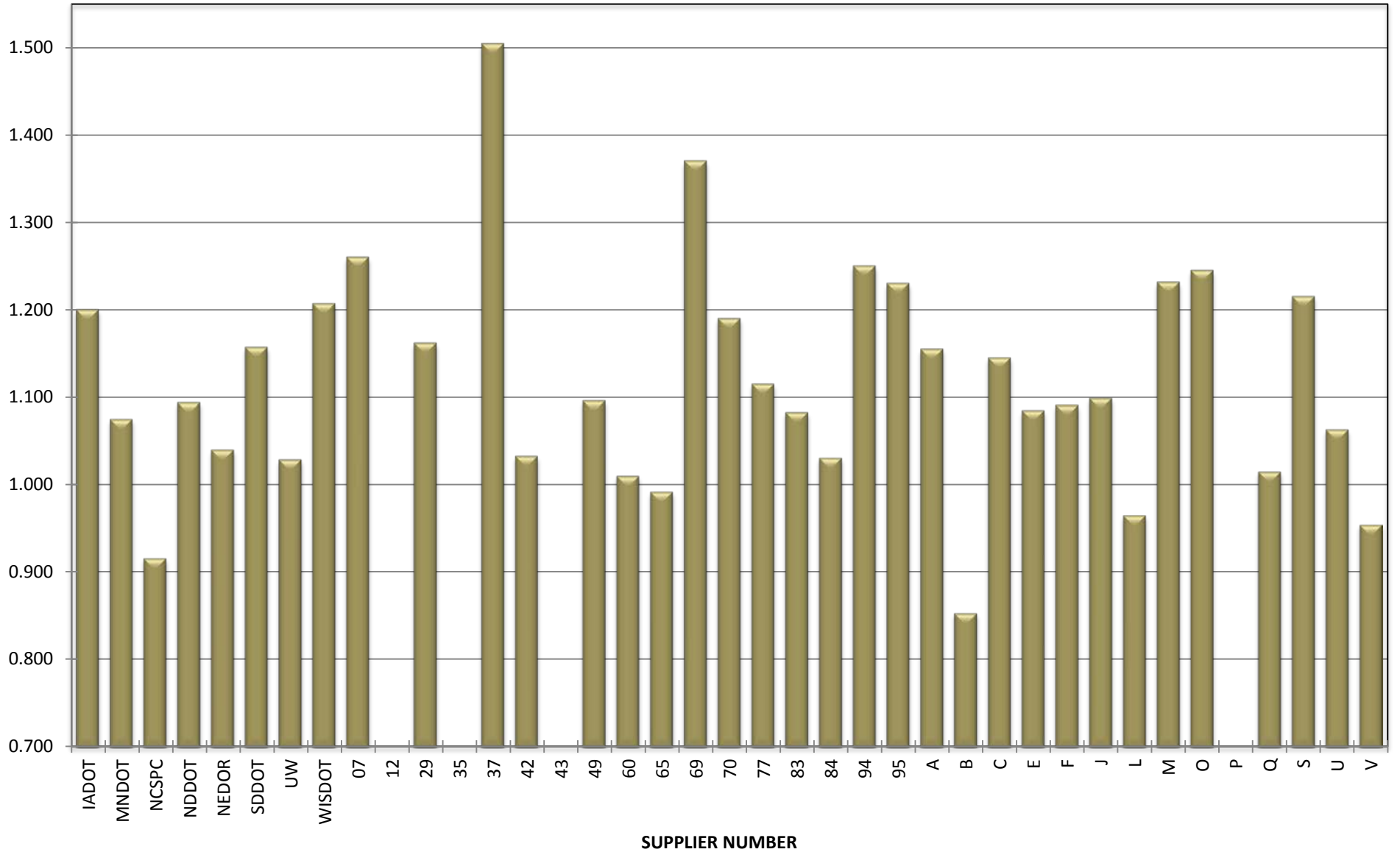
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BBR m-VALUE



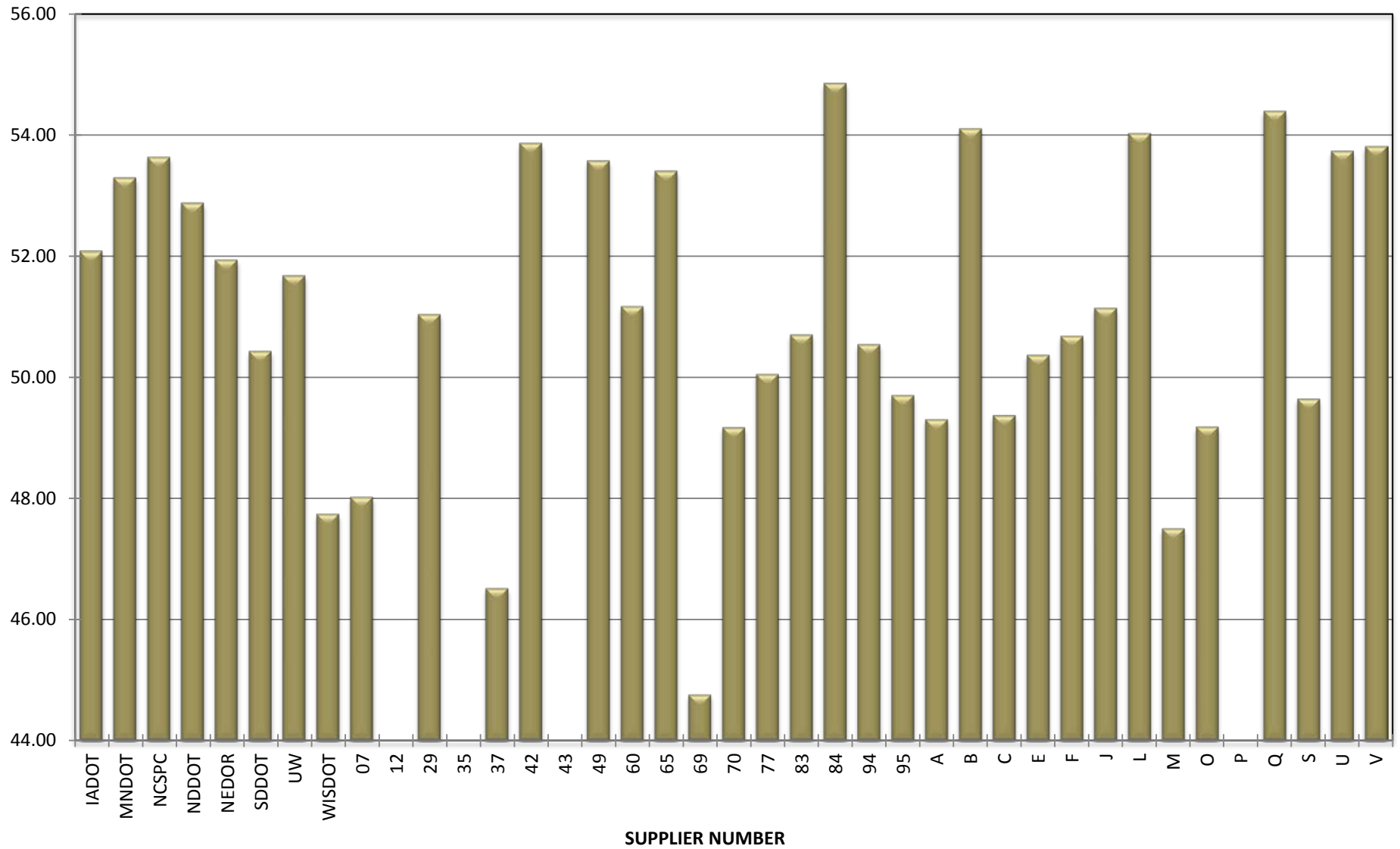
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Jnr @ 100 Pa



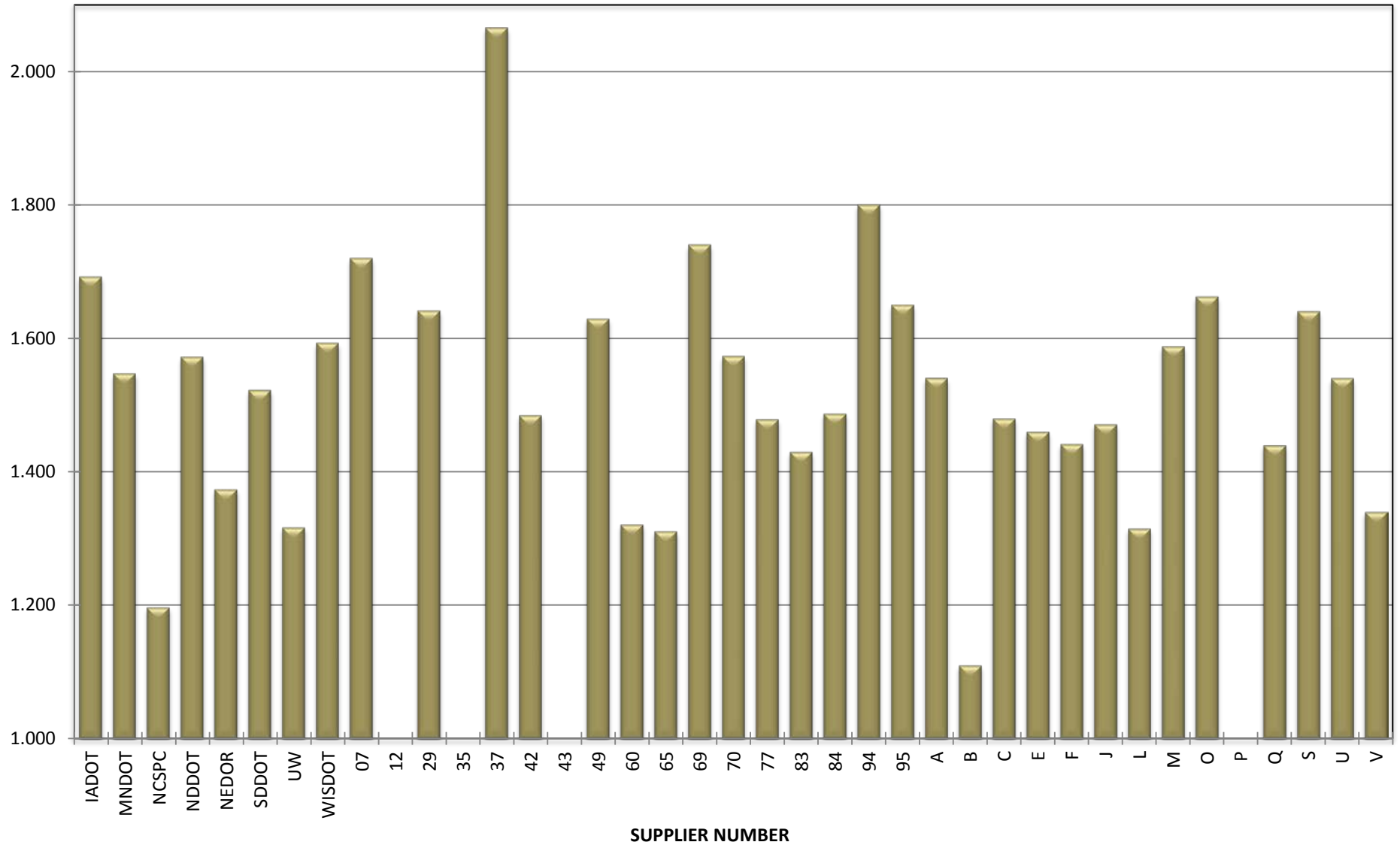
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% Recovery @ 100 Pa



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Jnr @ 3200 Pa



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