M11 EGR Test Matrix Status

Presentation to
HDEOCP
July 11, 2001
David M Stehouwer

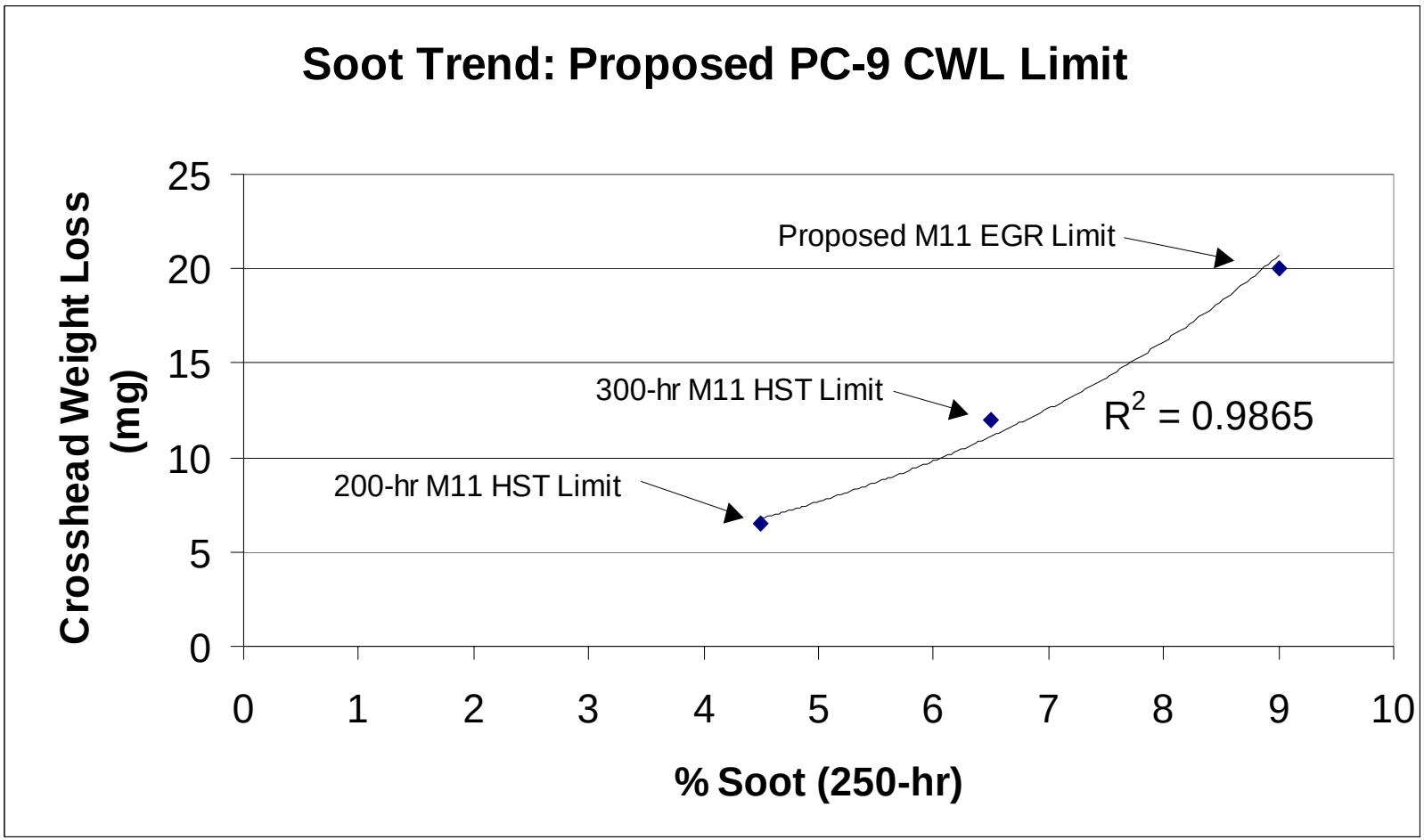
M-11 EGR Test Status

- M11EGR Task Group met July 9, 10
- Agreed to Data Set
  - ✓Removed CWL for soft rocker pads
  - ✓One run on Oil C accepted for OFDP only.
- Proposed Limits
  - ✓CWL 20 mg
  - ✓TWL 175 mg (requested ring gap data)
  - ✓OFDP 275 kPa @ 250 hrs
  - ✓ASR 8.0
  - ✓BWL, lAS: Report Value

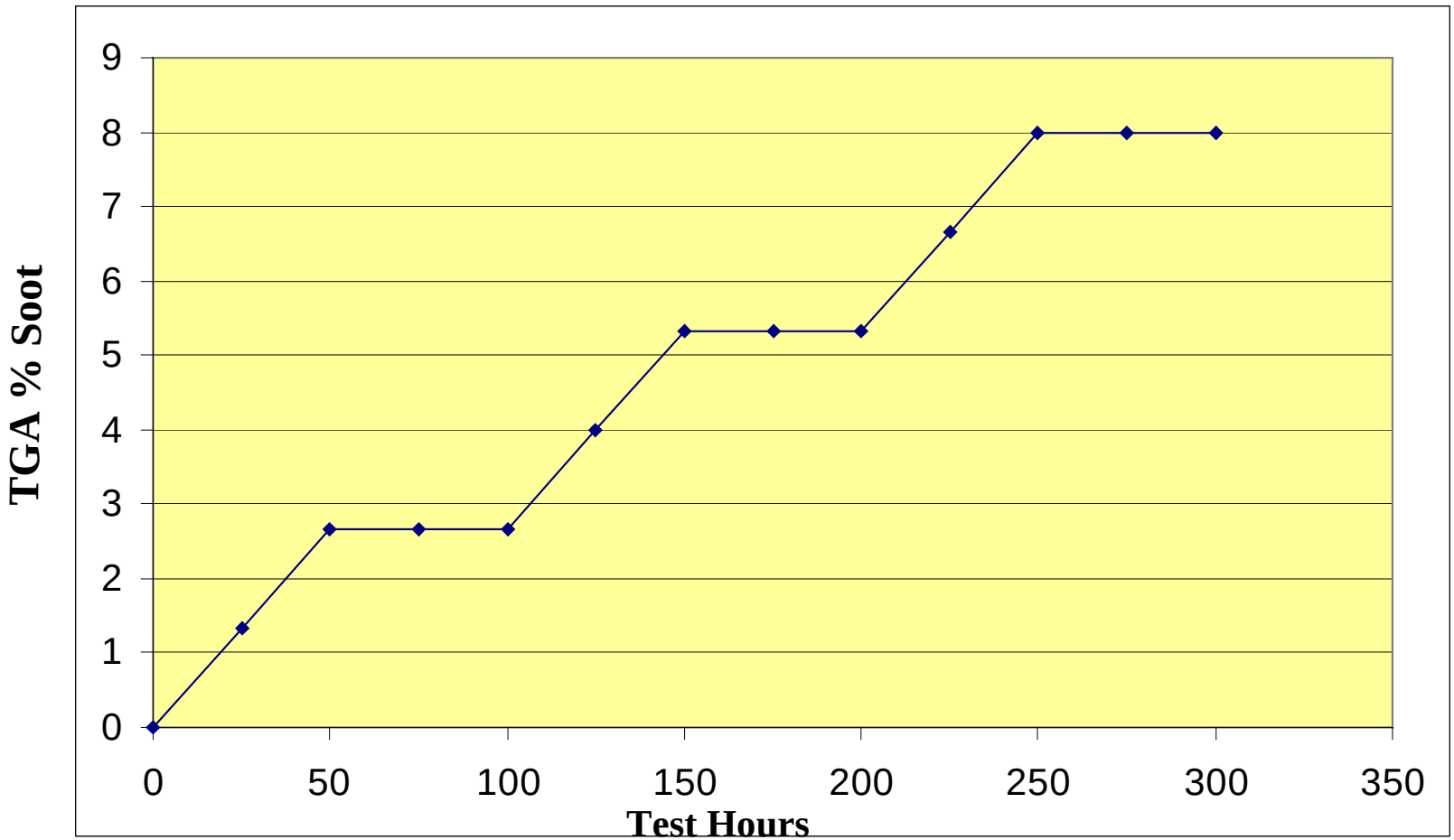
M11 EGR Test Status (Continued)

- Beaded Filters must be used for future reference runs
- Soot Targets:
  - ✓8.5 +/- 0.5 and 4.6 average soot (reference)
  - ✓8.0 min, and 4.6 average soot (non-reference)
- Established “To Do List” to meet HDEOCP time requirements
- Rating Workshop planned
- O&H Panel meeting planned to address lab variability

Soot vs. Wear in M11 Tests



“Ideal” Soot generation Curve



Average Soot = 4.6

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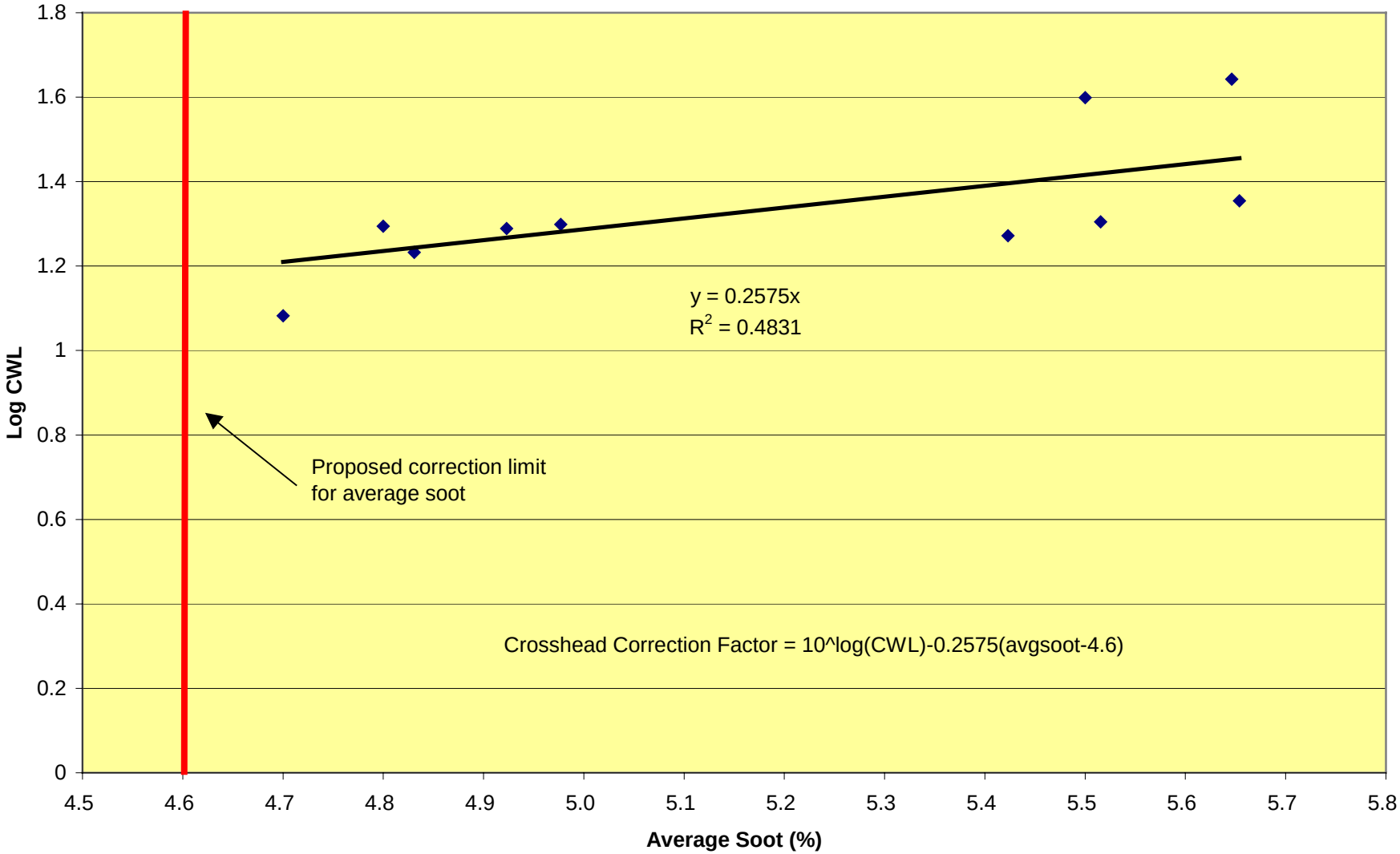
Crosshead Weight Loss vs Average Soot: Oil E



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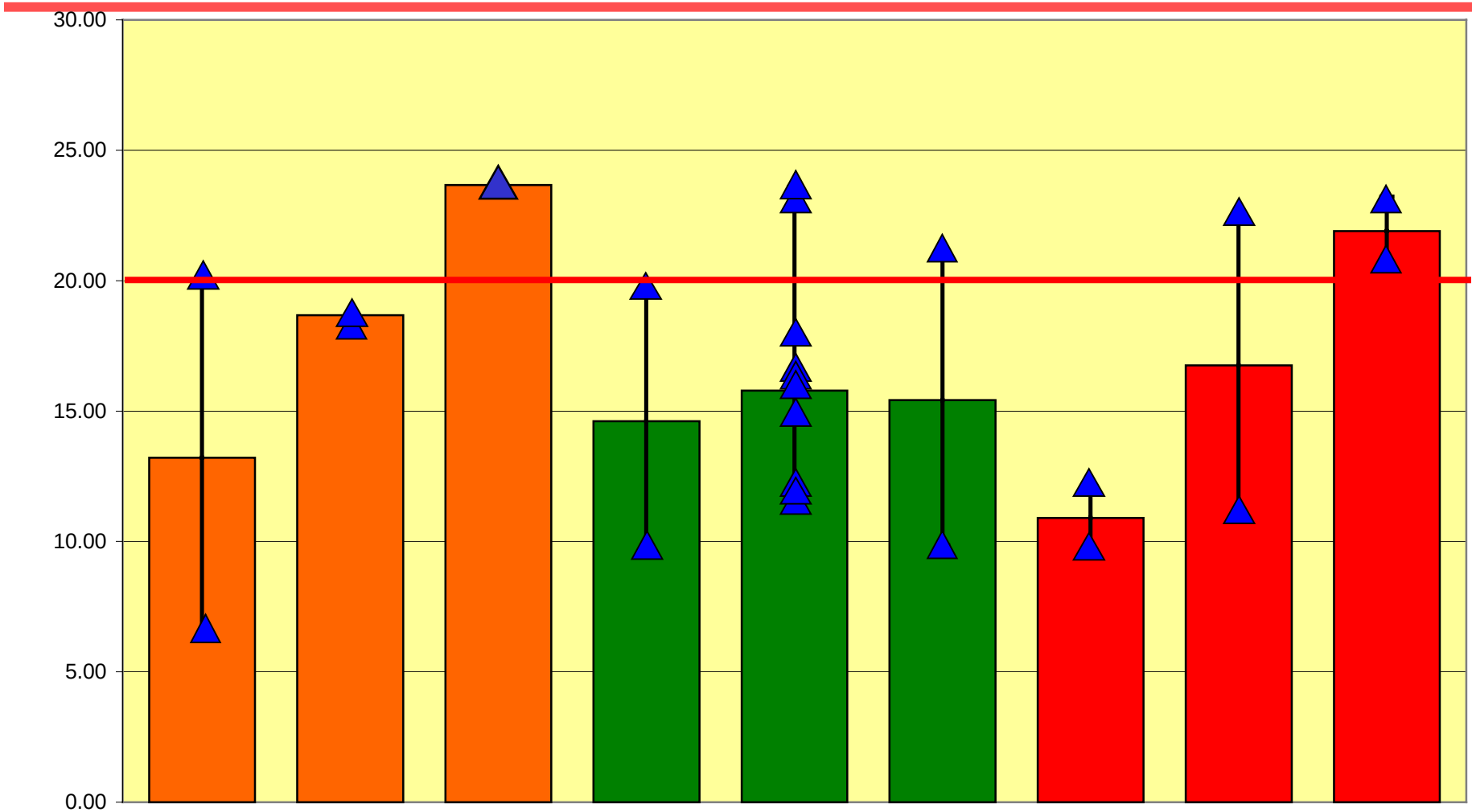
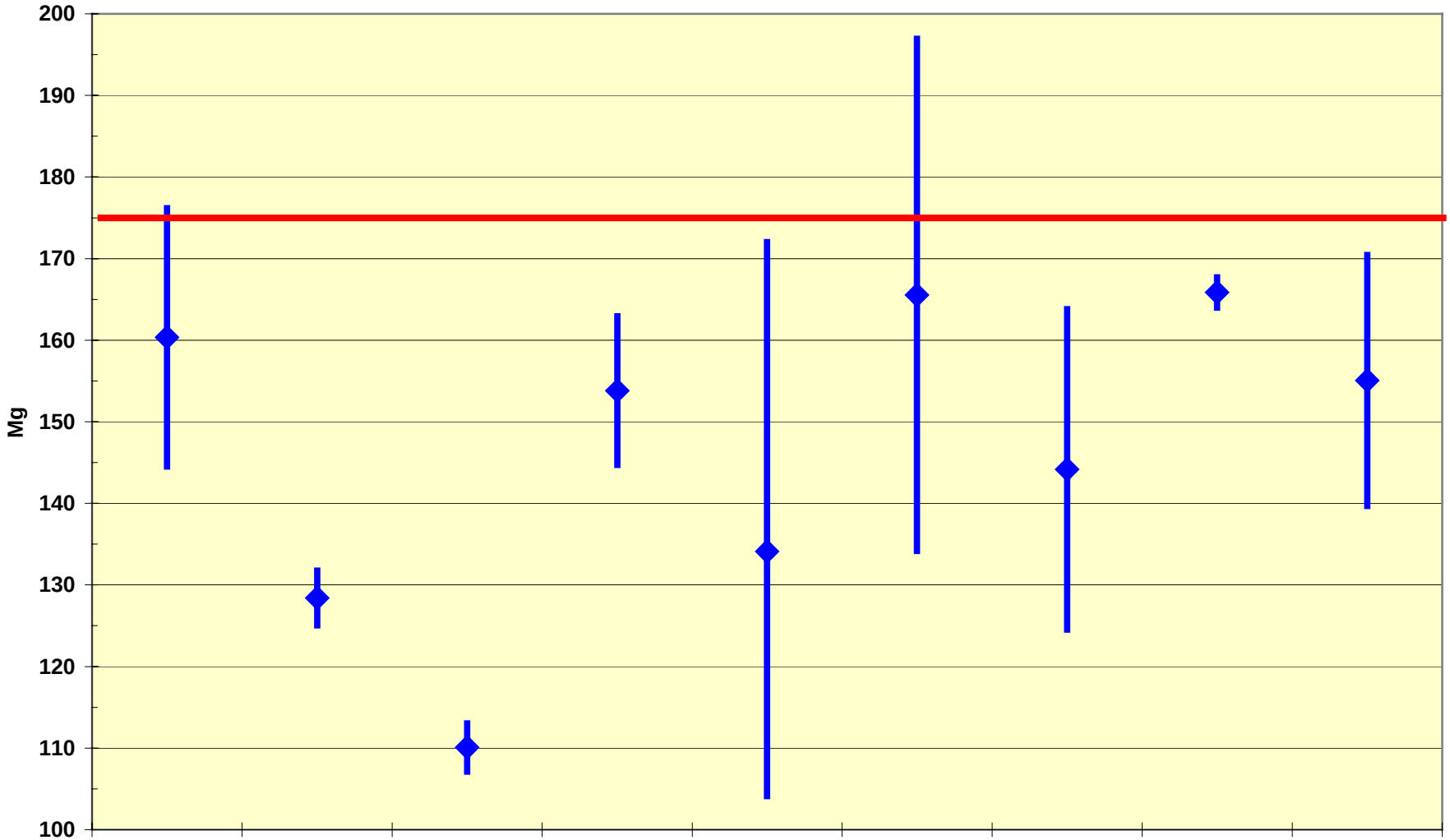
M11 PC-9 Matrix: Crosshead Weight Loss

Sorted Rocker Levers, Corrected to 4.6



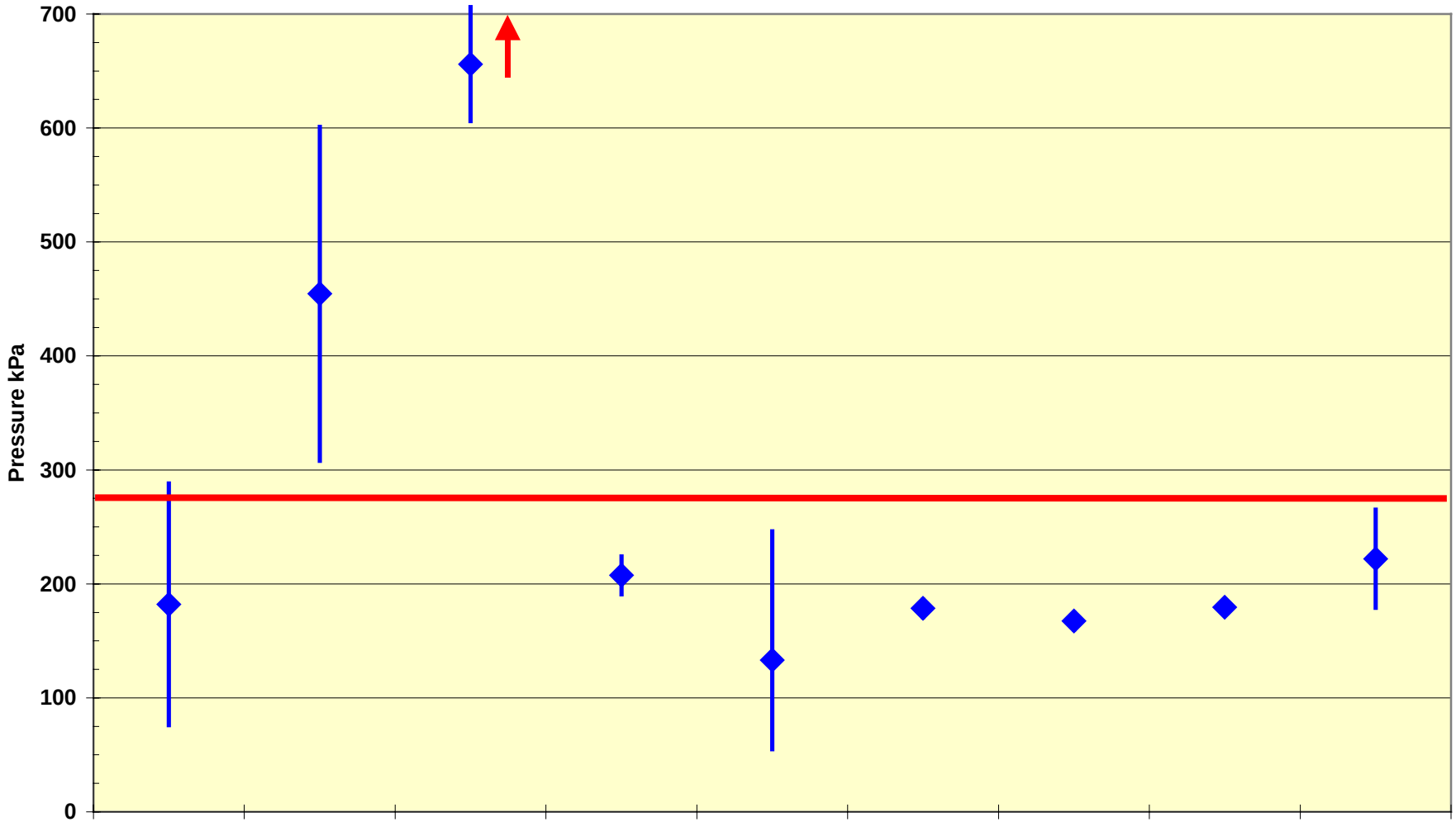
Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3

M11 PC-9 Matrix Top Ring Weight Loss



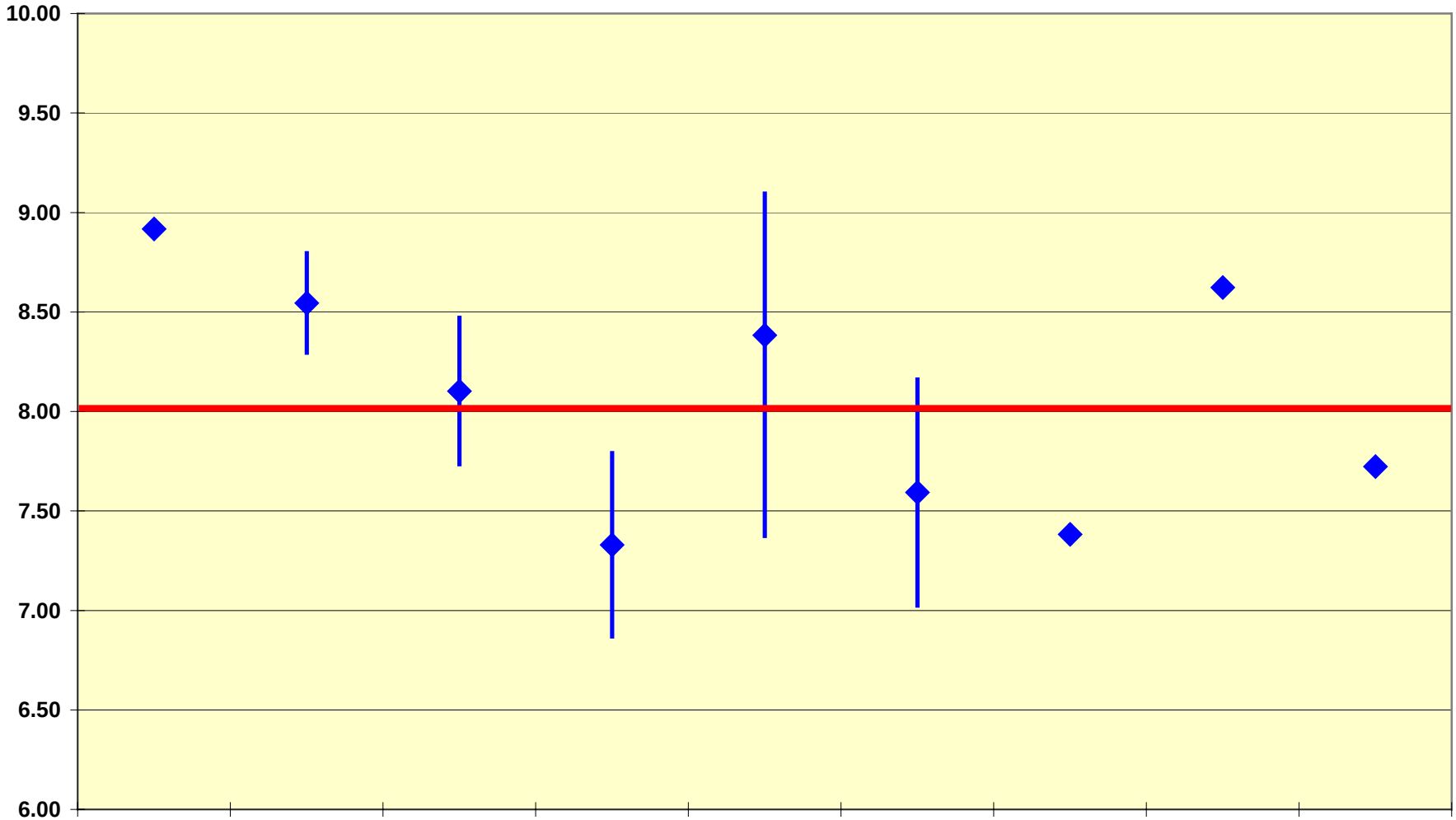
Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3

M11 PC-9 Matrix Oil Filter Delta P @ 250 Hr.



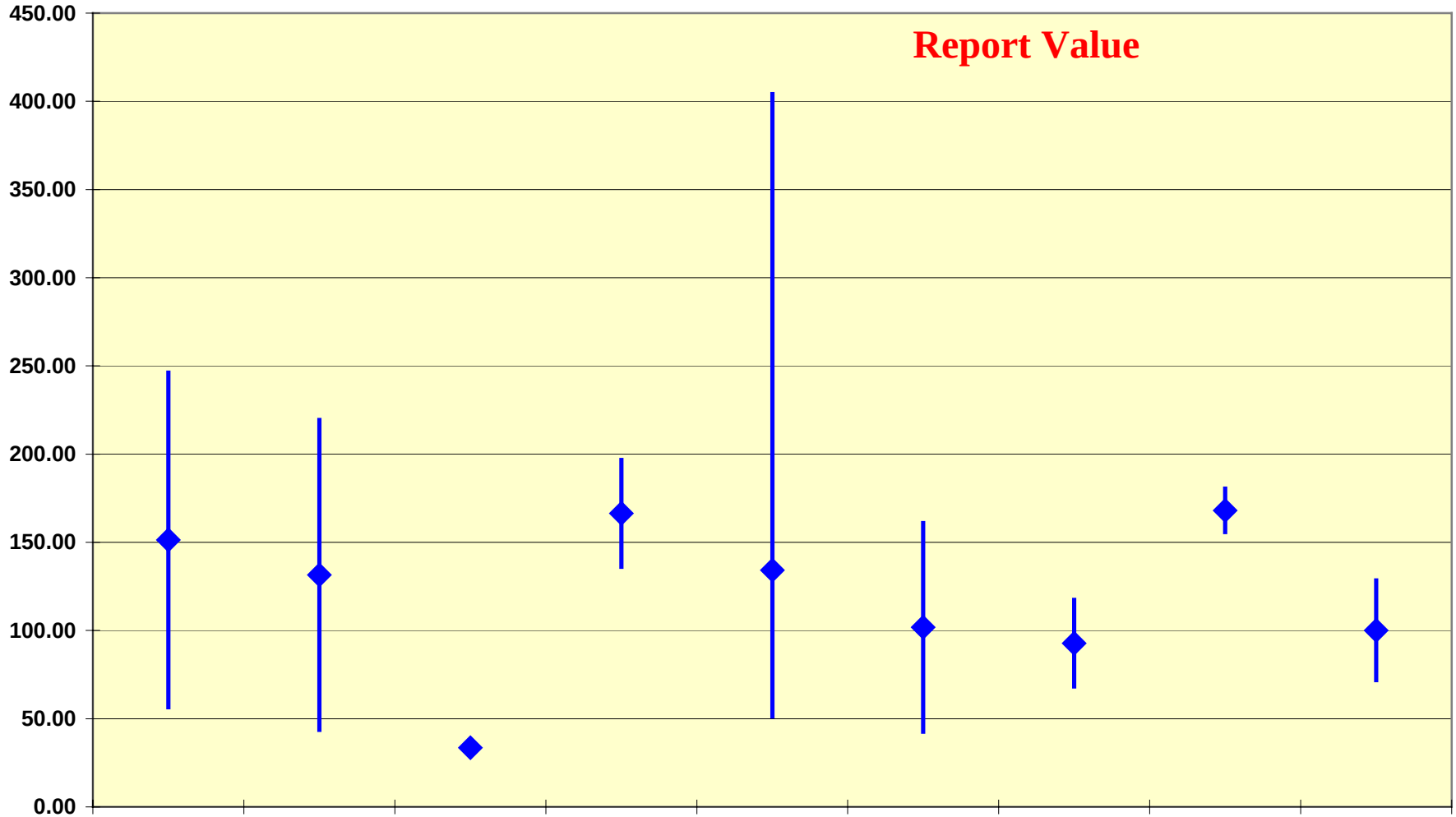
Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3

M11 PC-9 Matrix Average Sludge Rating



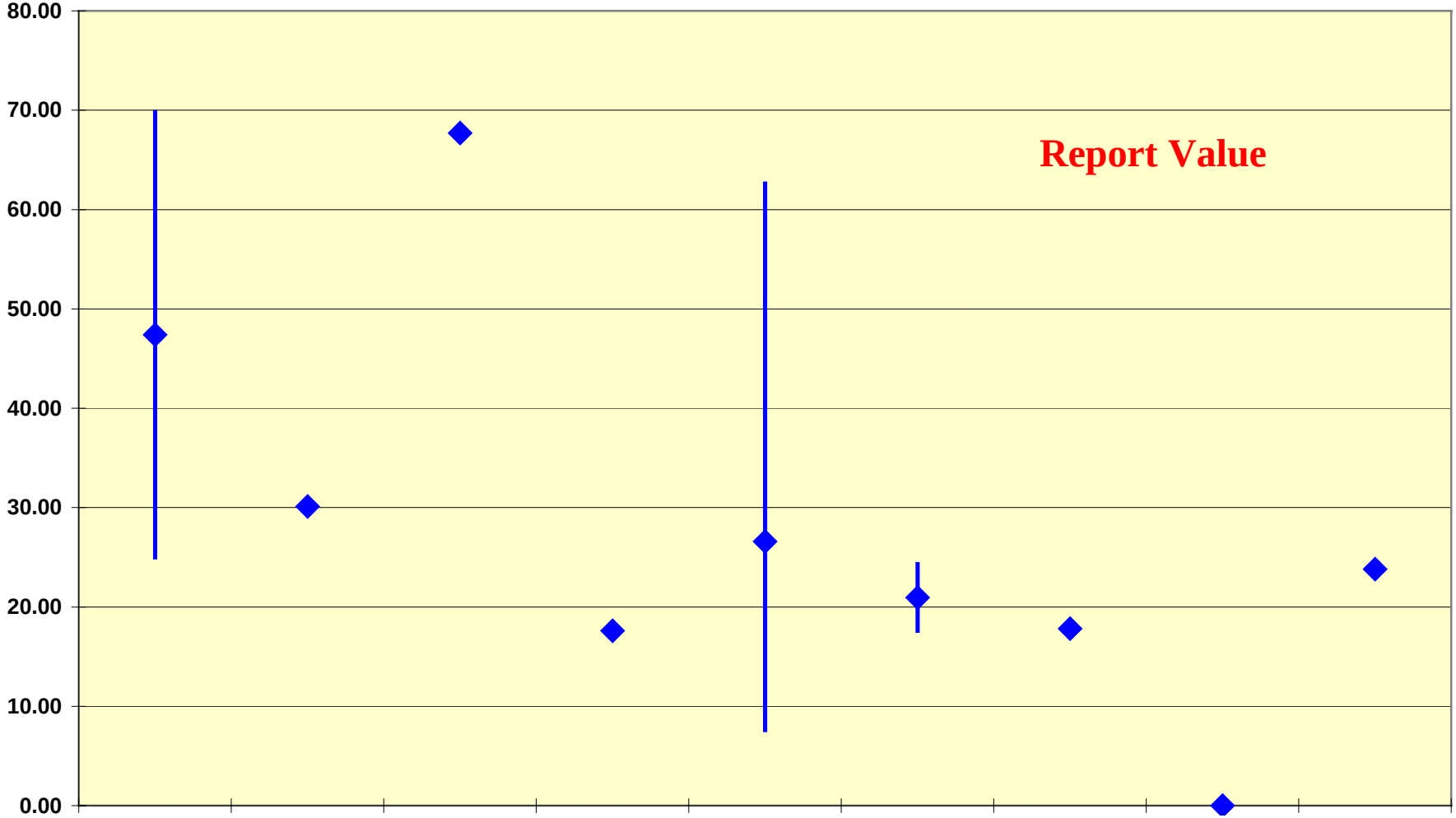
Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3

M11 PC-9 Matrix Injector Adjusting Screw Wt Loss



Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3

M11 PC-9 Matrix Bearing Wt Loss



Oil:	A	B	C	D	E	F	G	H	J
Technology	X	X	X	Y	Y	Y	Z	Z	Z
Base Stock:	1	2	3	1	2	3	1	2	3