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Test Monitoring Center

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MEMORANDUM: 13-049
DATE: October 4, 2013
TO: D5800 Volatility Bench Test Mailing List
FROM: Tom Schofield
SUBJECT: D5800 Noack Technical Update: New Reference Oils

Per the ASTM D02.B0.07 D5800 Volatility Surveillance Panel teleconference of 2013-09-17, the panel approved to replace reference oils 52, 55 and 58 with new oils VOLC12, VOLD12 and VOLE12. Performance targets and acceptance bands for the new oils are estimated from an interlaboratory round robin study using TMC calibrated D5800 instruments. Effective 2013-09-17, the reference oil targets and acceptance bands for the replacement oils are:

Oil ID	Parameter	n	Target		95% Acceptance Bands*	
			Mean	sR	Lower	Upper
VOLC12	mass % evaporation loss	24	14.19	0.40	13.4	15.0
VOLD12	mass % evaporation loss	27	12.52	0.52	11.5	13.5
VOLE12	mass % evaporation loss	27	16.74	0.55	15.7	17.8

*95% Acceptance Bands = Mean +/- (1.960 x sR)

The data used for estimating these performance targets follows in Attachment 1. Plots of the individual *mass % evaporation loss* test results by lab, and the new test target acceptance range spreads for Reference Oils VOLC12, VOLD12 & VOLE12 are in Attachment 2, Figures 1, 2 & 3, respectively.

Reference oils 52, 55 and 58 will continue to be assigned until the new replacement oils arrive at the labs. At that time only the new oils will be assigned, and the labs will be instructed to discard any unused blind samples of oils 52, 55 and 58 (specifically by CMIR ID).

For additional supporting documentation of these changes, please refer to the surveillance panel teleconference minutes of 2013-09-17.

Please direct any inquiries to the TMC.

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c: <ftp://ftp.astmtmc.cmu.edu/docs/bench/dd5800/memos>

Distribution: Email

TMC Oil VOL12C Data Set for Estimating New D5800 Performance Targets

SAMPLE TESTKEY	DATE COMPLETED	LAB	APPARATUS	PROCEDURE	INSTRUMENT MODEL	OIL	EVAL	EVALyi	VALIDITY
94179-D5800	20130531	A	A 2	B	NCK2	VOL12C	14	0.48	AG
94183-D5800	20130624	A	A 2	B	NCK2	VOL12C	13.7	1.23	AG
94203-D5800	20130521	B	B 3	B	NCK2	VOL12C	14.6	-1.02	AG
94207-D5800	20130614	B	B 3	B	NCK2	VOL12C	14.6	-1.02	AG
94211-D5800	20130522	B	B 6	B	NCK25G	VOL12C	14.9	-1.77	AG
94215-D5800	20130617	B	B 6	B	NCK25G	VOL12C	13.7	1.23	AG
94219-D5800	20130524	B	B 9	B	NCK25G	VOL12C	14.3	-0.27	AG
94223-D5800	20130617	B	B 9	B	NCK25G	VOL12C	14.6	-1.02	AG
94231-D5800	20130531	D	D 3	C	SVT1	VOL12C	14.4	-0.52	AG
94437-D5800	20130529	F	F 1	B	NCK2	VOL12C	13.9	0.73	AG
94441-D5800	20130624	F	F 1	B	NCK2	VOL12C	14.5	-0.77	AG
94445-D5800	20130529	F	F 3	B	NCK2	VOL12C	14.4	-0.52	AG
94235-D5800	20130516	G	G 3	B	PS4000	VOL12C	14.2	-0.02	AG
94239-D5800	20130617	G	G 3	B	PS4000	VOL12C	14.1	0.23	AG
94243-D5800	20130516	G	G 4	C	SVT1	VOL12C	13.6	1.48	AG
94247-D5800	20130618	G	G 4	C	SVT1	VOL12C	14.1	0.23	AG
94259-D5800	20130605	I	I 4	B	NCK25G	VOL12C	14	0.48	AG
94263-D5800	20130611	I	I 4	B	NCK25G	VOL12C	13.9	0.73	AG
94421-D5800	20130622	J	J 4	B	NCK25G	VOL12C	14.5	-0.77	AG
94425-D5800	20130625	J	J 4	B	NCK25G	VOL12C	14	0.48	AG
94429-D5800	20130710	J	J 5	B	NCK25G	VOL12C	14.6	-1.02	AG
94433-D5800	20130712	J	J 5	B	NCK25G	VOL12C	14.8	-1.52	AG
94933-D5800	20130625	V	V 2	C	SVT1	VOL12C	13.7	1.23	AG
94937-D5800	20130627	V	V 2	C	SVT1	VOL12C	13.5	1.73	AG

TMC Oil VOL12D Data Set for Estimating New D5800 Performance Targets

SAMPLE TESTKEY	DATE COMPLETED	LAB	APPARATUS	PROCEDURE	INSTRUMENT MODEL	OIL	EVAL	EVALyi	VALIDITY
94180-D5800	20130606	A	A 2	B	NCK2	VOL12D	12	1.00	AG
94184-D5800	20130626	A	A 2	B	NCK2	VOL12D	12.1	0.80	AG
94196-D5800	20130801	A	A 7	B	NCK25G	VOL12D	13.1	-1.12	AG
94204-D5800	20130531	B	B 3	B	NCK2	VOL12D	13.2	-1.31	AG
94208-D5800	20130628	B	B 3	B	NCK2	VOL12D	12.6	-0.16	AG
94212-D5800	20130603	B	B 6	B	NCK25G	VOL12D	13.4	-1.69	AG
94216-D5800	20130628	B	B 6	B	NCK25G	VOL12D	13.2	-1.31	AG
94220-D5800	20130604	B	B 9	B	NCK25G	VOL12D	12.4	0.23	AG
94224-D5800	20130624	B	B 9	B	NCK25G	VOL12D	12.8	-0.54	AG
94228-D5800	20130516	D	D 3	C	SVT1	VOL12D	12.5	0.04	AG
94232-D5800	20130613	D	D 3	C	SVT1	VOL12D	12.7	-0.35	AG
94438-D5800	20130606	F	F 1	B	NCK2	VOL12D	12.2	0.61	AG
94442-D5800	20130701	F	F 1	B	NCK2	VOL12D	12.2	0.61	AG
94446-D5800	20130607	F	F 3	B	NCK2	VOL12D	12.6	-0.16	AG
94450-D5800	20130701	F	F 3	B	NCK2	VOL12D	13.3	-1.50	AG
94236-D5800	20130603	G	G 3	B	PS4000	VOL12D	12.2	0.61	AG
94240-D5800	20130619	G	G 3	B	PS4000	VOL12D	12.2	0.61	AG
94244-D5800	20130603	G	G 4	C	SVT1	VOL12D	12.9	-0.73	AG
94248-D5800	20130619	G	G 4	C	SVT1	VOL12D	13.4	-1.69	AG
94260-D5800	20130606	I	I 4	B	NCK25G	VOL12D	11.9	1.19	AG
94264-D5800	20130612	I	I 4	B	NCK25G	VOL12D	11.7	1.57	AG
94422-D5800	20130622	J	J 4	B	NCK25G	VOL12D	12.6	-0.16	AG
94426-D5800	20130626	J	J 4	B	NCK25G	VOL12D	12.6	-0.16	AG
94430-D5800	20130711	J	J 5	B	NCK25G	VOL12D	12.6	-0.16	AG
94434-D5800	20130715	J	J 5	B	NCK25G	VOL12D	12.1	0.80	AG
94934-D5800	20130626	V	V 2	C	SVT1	VOL12D	11.6	1.77	AG
94938-D5800	20130628	V	V 2	C	SVT1	VOL12D	11.9	1.19	AG

TMC Oil VOL12E Data Set for Estimating New D5800 Performance Targets

SAMPLE TESTKEY	DATE COMPLETED	LAB	APPARATUS	PROCEDURE	INSTRUMENT MODEL	OIL	EVAL	EVALyi	VALIDITY
94181-D5800	20130613	A	A 2	B	NCK2	VOL12E	16.7	0.08	AG
94185-D5800	20130701	A	A 2	B	NCK2	VOL12E	16.1	1.16	AG
94197-D5800	20130820	A	A 7	B	NCK25G	VOL12E	17.5	-1.36	AG
94205-D5800	20130606	B	B 3	B	NCK2	VOL12E	17	-0.46	AG
94209-D5800	20130701	B	B 3	B	NCK2	VOL12E	17.6	-1.54	AG
94213-D5800	20130607	B	B 6	B	NCK25G	VOL12E	16.9	-0.28	AG
94217-D5800	20130701	B	B 6	B	NCK25G	VOL12E	17.6	-1.54	AG
94221-D5800	20130611	B	B 9	B	NCK25G	VOL12E	17.2	-0.82	AG
94225-D5800	20130628	B	B 9	B	NCK25G	VOL12E	16.1	1.16	AG
94229-D5800	20130517	D	D 3	C	SVT1	VOL12E	16.8	-0.10	AG
94233-D5800	20130618	D	D 3	C	SVT1	VOL12E	16.6	0.26	AG
94439-D5800	20130610	F	F 1	B	NCK2	VOL12E	16.2	0.98	AG
94443-D5800	20130709	F	F 1	B	NCK2	VOL12E	16.4	0.62	AG
94447-D5800	20130610	F	F 3	B	NCK2	VOL12E	17.6	-1.54	AG
94451-D5800	20130709	F	F 3	B	NCK2	VOL12E	17.8	-1.90	AG
94237-D5800	20130606	G	G 3	B	PS4000	VOL12E	16.2	0.98	AG
94245-D5800	20130606	G	G 3	B	PS4000	VOL12E	16.3	0.80	AG
94241-D5800	20130613	G	G 4	C	SVT1	VOL12E	16.2	0.98	AG
94249-D5800	20130621	G	G 4	C	SVT1	VOL12E	15.9	1.52	AG
94261-D5800	20130607	I	I 4	B	NCK25G	VOL12E	16.1	1.16	AG
94265-D5800	20130613	I	I 4	B	NCK25G	VOL12E	16.2	0.98	AG
94423-D5800	20130623	J	J 4	B	NCK25G	VOL12E	17.1	-0.64	AG
94427-D5800	20130627	J	J 4	B	NCK25G	VOL12E	17.1	-0.64	AG
94431-D5800	20130711	J	J 5	B	NCK25G	VOL12E	16.8	-0.10	AG
94435-D5800	20130717	J	J 5	B	NCK25G	VOL12E	16.5	0.44	AG
94935-D5800	20130626	V	V 2	C	SVT1	VOL12E	16.9	-0.28	AG
94939-D5800	20130628	V	V 2	C	SVT1	VOL12E	16.7	0.08	AG

Figure 1

D5800 (Reference Oil VOLC12)
Test Target Data Set and Shewart Severity Limits

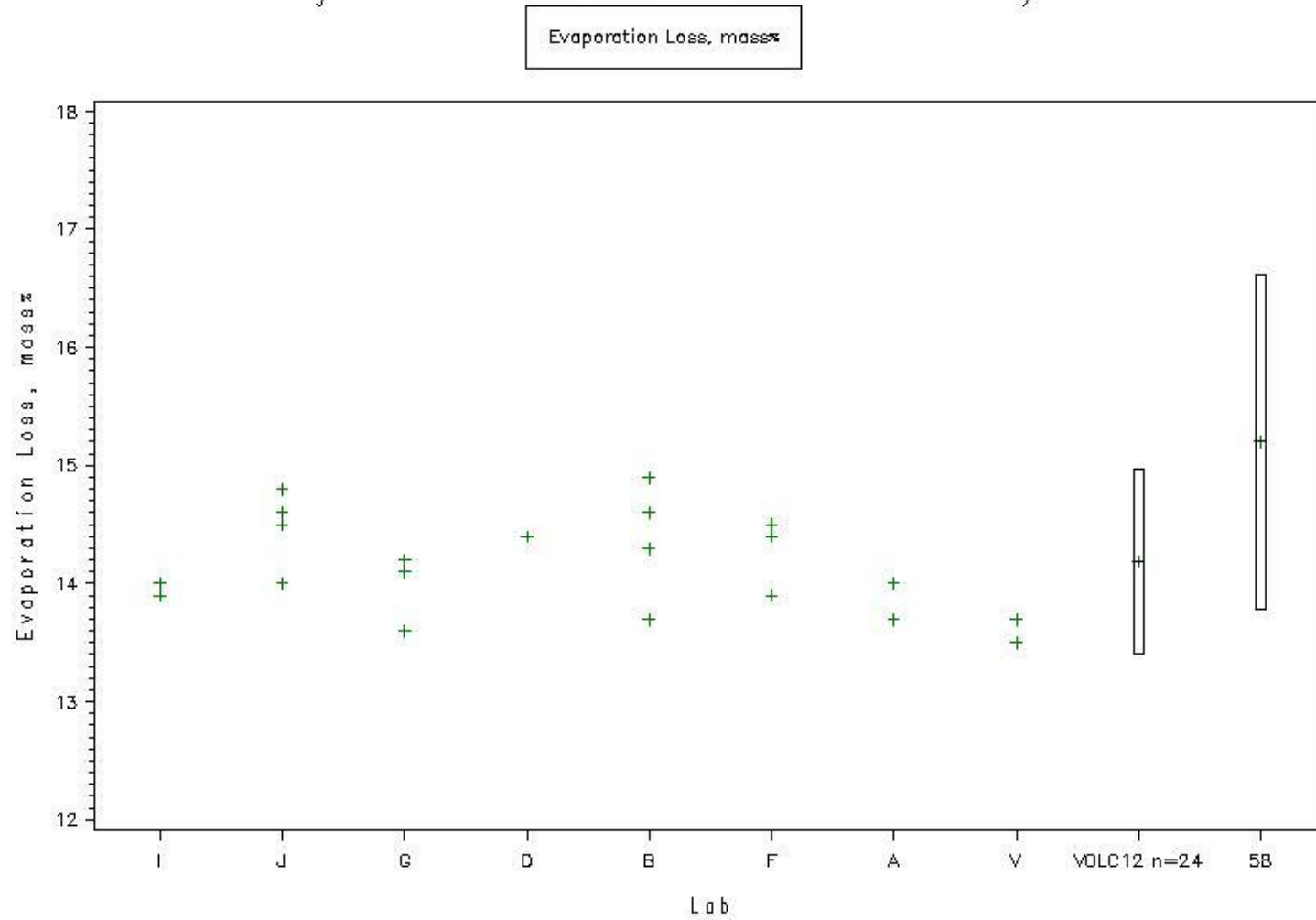


Figure 2

D5800 (Reference Oil VOLD12)
Test Target Data Set and Shewart Severity Limits

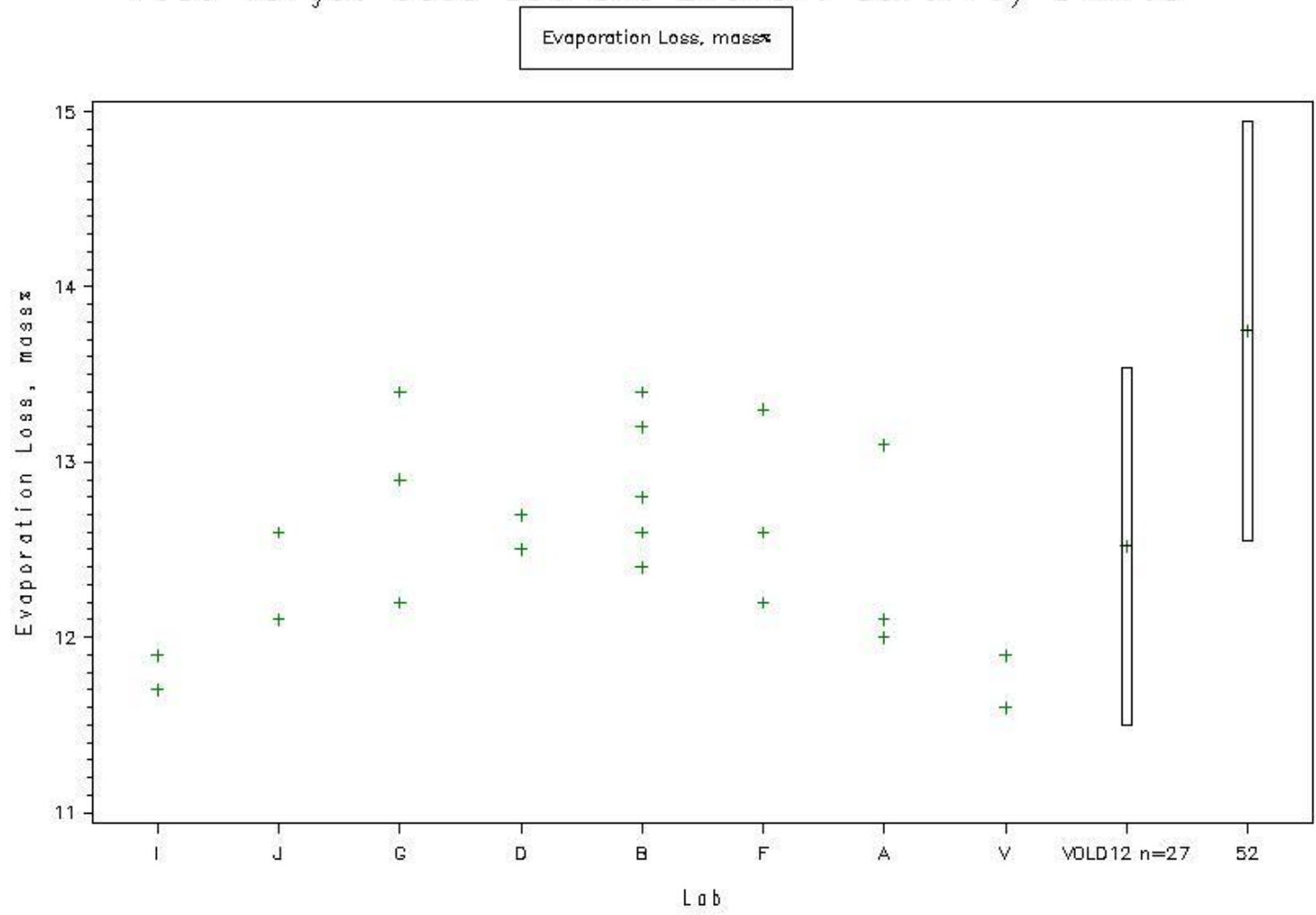


Figure 3

D5800 (Reference Oil VOLE12)
Test Target Data Set and Shewart Severity Limits

