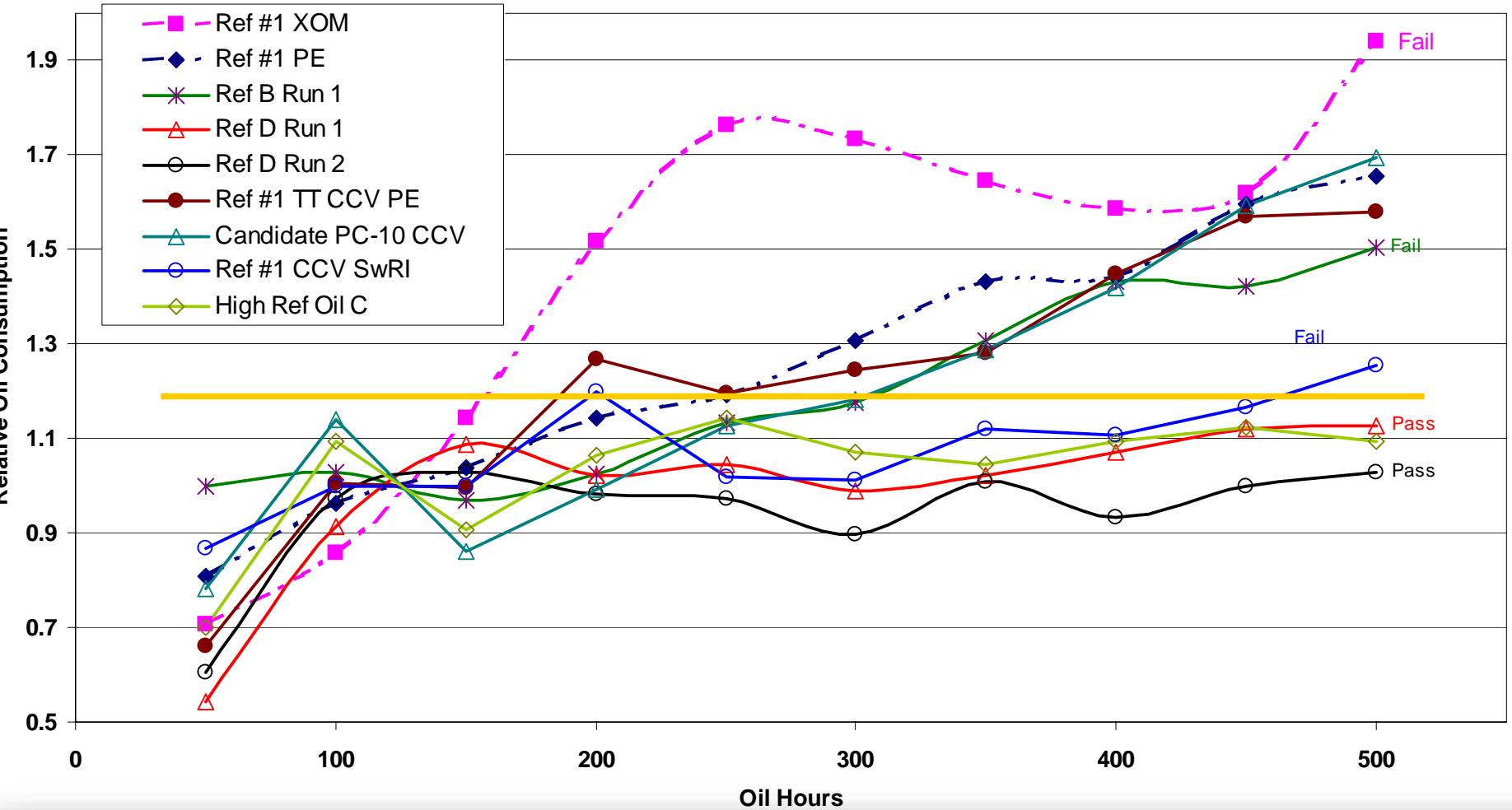


## C13 Normalized Oil Consumption

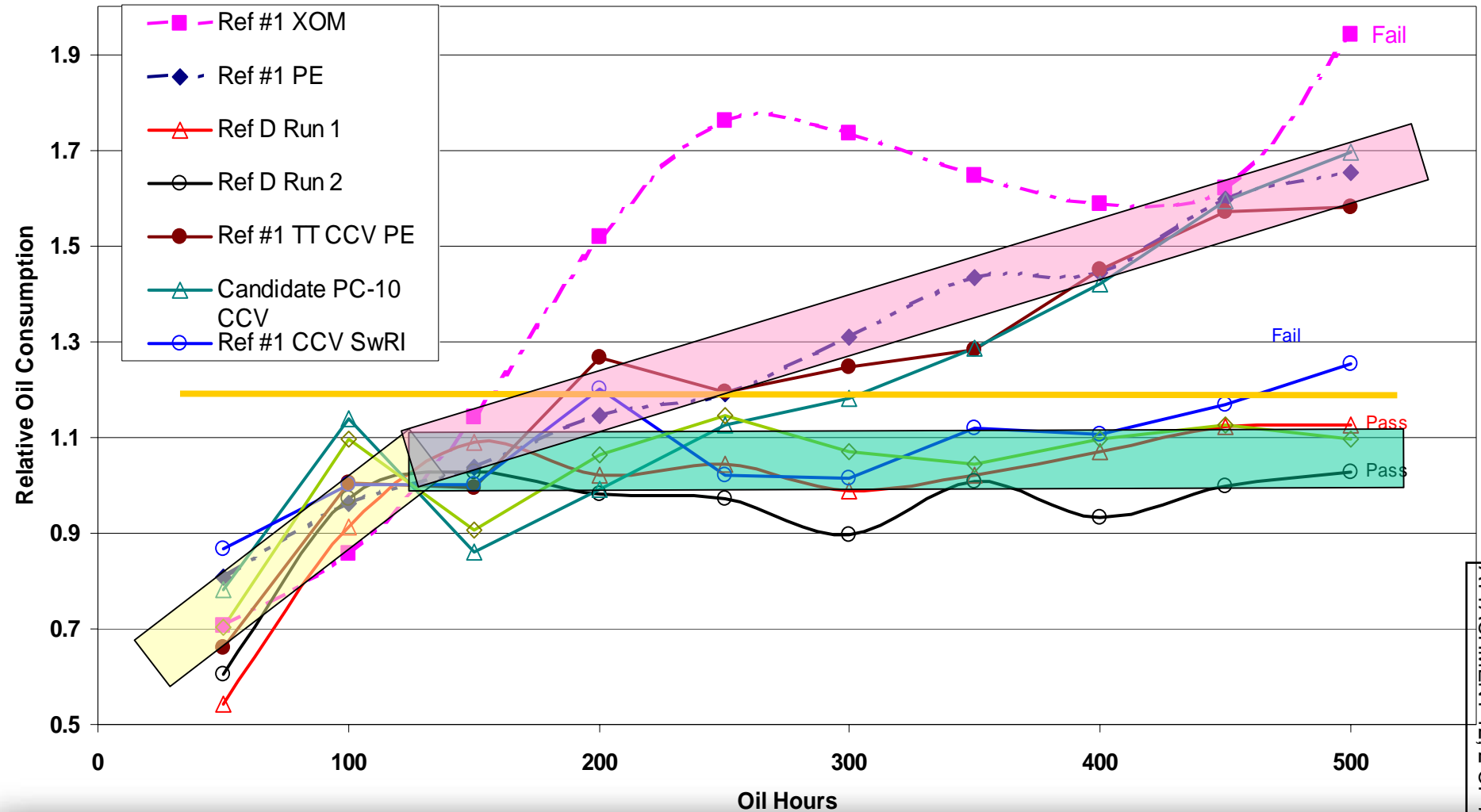


ATTACHMENT 12, 1 OF 7



# Caterpillar C13 Test Update

## C13 Normalized Oil Consumption

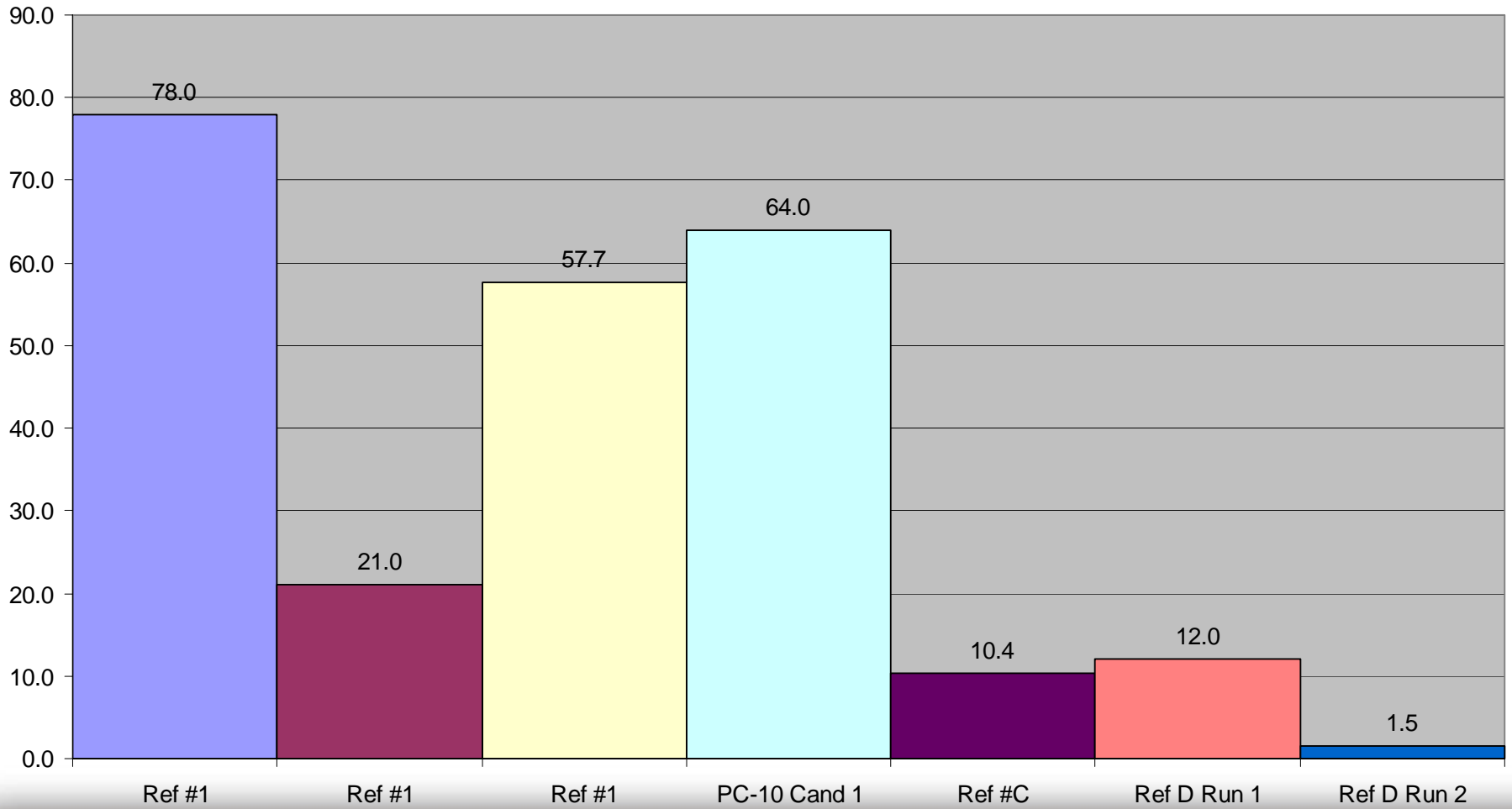


ATTACHMENT 12, 2 OF 7



# Caterpillar C13 Test Update

### C13 - Oil Consumption Increase (Percent)



ATTACHMENT 12, 3 OF 7



<u>Oil</u>	<u>Oil Consumption</u>	<u>Piston Deposits</u>	<u>Loss of 2<sup>nd</sup> Ring Side Clearance</u>
Ref #1 SwRI	Fail	Fail	All
Ref #1 PE	Fail	Fail	2 Sluggish
PC-10 Cand 1	Fail	Fail	3, 1 Stuck
High Ref C	Pass	Fail	All
Ref Oil D	Pass	Pass	None

ATTACHMENT 12.4 OF 7



<u>Oil</u>	<u>Oil Oxidation at 500 hrs</u>	<u>TBN</u>	<u>TAN</u>
Ref #1 SwRI	494	2.3	4.2
Ref #1 PE	535	3.0	4.8
PC-10 Cand 1	779	2.5	6.4
High Ref C	1087	0.1	3.8
Ref Oil D	1154	2.2	5.5

ATTACHMENT 12, 5 OF 7



Turbo fouling discrimination of oils is possible on the C13.

Question is do the members need a Turbo test?

Pistons Deposit complication without discrimination with Closed CCV

TF decided to remove CCV but retain ULSDF



1P liner change of supplier by 2<sup>nd</sup> qtr 04.

Funding to sort out surface profile to improve test reliability

Surv Panel, Labs agree to help in this work.

Early data and studies prevent 1M-PC situation repeat

New Piston temperature test at CAT show C13 temps much lower than previous, Top land 230 °C, 2G 130 °C.

