

T-12 Phase I Oil Consumption Study

SOUTHWEST RESEARCH INSTITUTE®



Original Study Plan

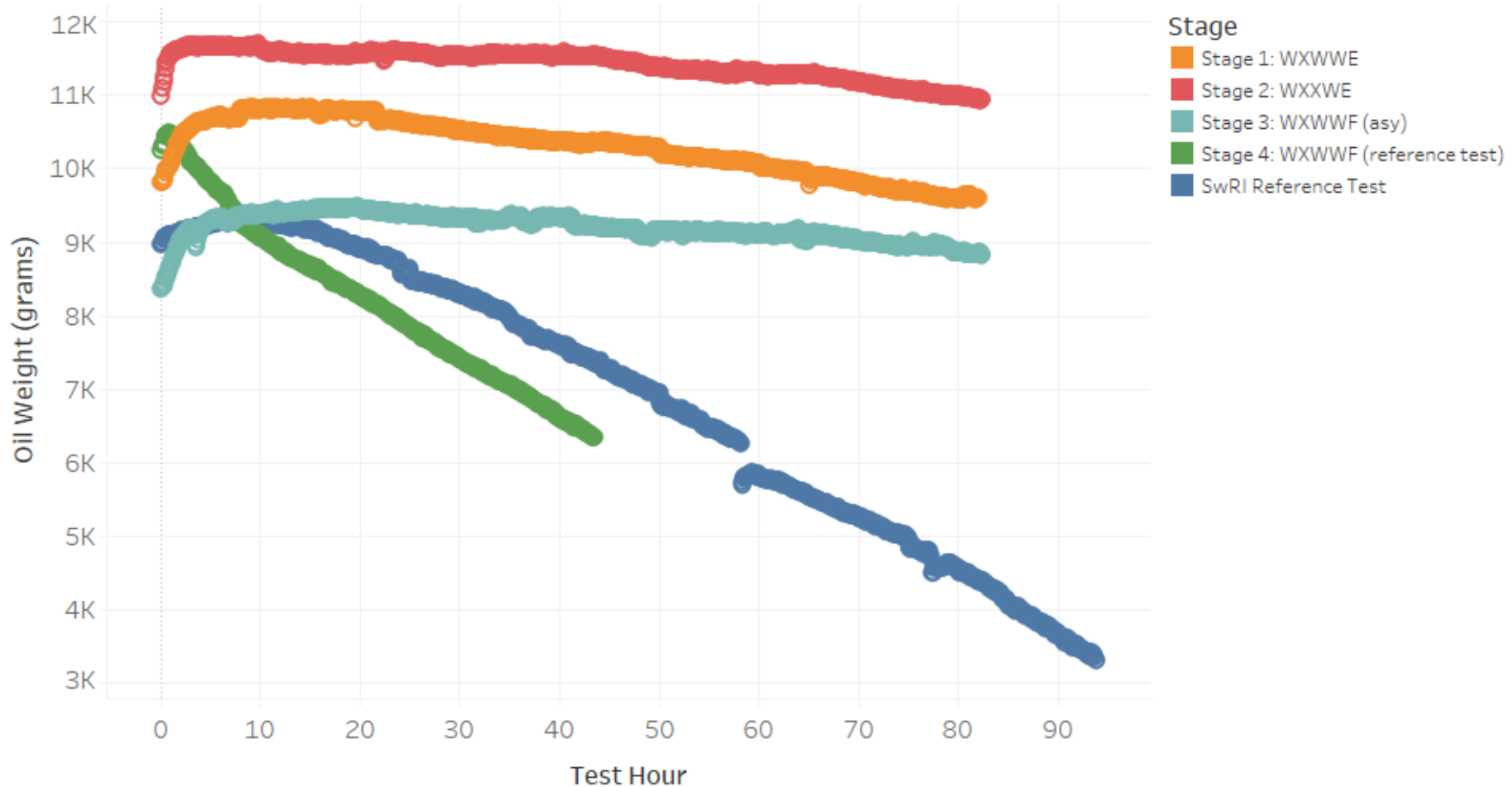
	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5?
Current Hardware	2 nd Rings (W) Oil Rings (W) Piston Crowns (E)	Oil Rings (W) Piston Crowns (E)	Piston Crowns (E)	Piston Crowns (E)	
New Hardware	Liners (W)	Liners (W) 2 nd Rings (X)	Liners (W) 2 nd Rings (X) Oil Rings (X Asymmetric)	Liners (W) 2 nd Rings (X) Oil Rings (X Symmetric)	Liners (W) 2 nd Rings (X) Oil Rings (X) Piston Crowns (F)
Phase 1 Oil Consumption	20.6 g/hr	21 g/hr			

Revised Study Plan

	Stage 1	Stage 2	Stage 3 Hardware provided by TEI (same as prior stages)	Stage 4 *SwRI Reference Test Hardware*	Stage 5 Replacing Piston Crowns only
Current Hardware	2 nd Rings (W) Oil Rings (W) Piston Crowns (E)	Oil Rings (W) Piston Crowns (E)		*All of Cyl 6 and oil rings on Cyl 2 & 4 remained the same as Stage 3*	
New Hardware	Liners (W)	Liners (W) 2 nd Rings (X)	Liners (W) 2 nd Rings (X) Oil Rings (X Asymmetric) Piston Crowns (F)	Liners (W) 2 nd Rings (X) Oil Rings (X) Piston Crowns (F)	Liners (W) 2 nd Rings (X) Oil Rings (X) Piston Crowns (F from stage 3)
Phase 1 Oil Consumption	20.6 g/hr	21 g/hr	15.2 g/hr Phase 2: 90 g/hr	70 g/hr	

Oil Consumption Trends

T-12 Phase 1 Consumption



Study Plan

- ASTM D-975 Fuel
- Mack Bulldog 15W-40 Oil
- Test hardware is new and has been provided by TEI
 - Previous batch hardware are parts with defects that prevented them from registered testing use