

# Report of the Month

Something is amiss in this TIO-540. Can you tell what it is?

To learn more about where the elements are coming from, [click here](#).

ELEMENTS IN PARTS PER MILLION	MI/HR on Oil	40	UNIT/ LOCATION AVERAGES	30	35	34	38	UNIVERSAL AVERAGES
	MI/HR on Unit	1,629		1,590	1,499	1,435	1,363	
	Sample Date	05/13/13		02/21/13	08/15/12	05/29/12	10/27/11	
	ALUMINUM	4	5	2	2	3	2	5
	CHROME	4	4	3	3	3	4	8
	IRON	37	29	32	27	22	29	33
	COPPER	4	5	2	3	3	3	7
	LEAD	6237	5382	5303	5778	5570	6044	5641
	TIN	0	1	0	3	2	1	1
	MOLYBDENUM	0	0	0	0	0	0	0
NICKEL	2	1	1	1	1	1	2	
PO TASSIUM	0	0	0	0	0	0	1	
BORON	1	0	1	0	0	1	1	
SILICON	6	6	4	6	5	5	9	
SODIUM	1	1	1	1	0	0	1	
CALCIUM	0	1	0	0	1	0	10	
MAGNESIUM	2	1	2	2	3	1	4	
PHOSPHORUS	6	583	12	0	582	8	612	
ZINC	4	6	3	4	6	3	11	
BARIUM	0	0	0	0	0	0	0	

Values  
Should Be\*

PROPERTIES	SUS Viscosity @210°F	69.0	70-85	70.4	90.5	72.7	101.5
	cSt Viscosity @ 100°C	12.70	13.0-17.0	13.06	18.11	13.65	20.70
	Flashpoint in °F	490	>440	BOIL	BOIL	480	435
	Fuel %	<0.5	<1.0	-	-	<0.5	1.3
	Antifreeze %	-	-	-	-	-	-
	Water %	0.0	0.1	POS	TR	0.0	TR
	Insolubles %	0.6	<0.6	1.0	0.5	0.4	0.4
	TBN						
	TAN						
	ISO Code						

\*THIS COLUMN APPLIES ONLY TO THE CURRENT SAMPLE

This engine had a hole in a connecting hose on its air/oil separator that was causing moisture to go back into the oil. Air/oil separators can work fine when they're installed and maintained correctly, but if they get clogged or have other problems, they can spell trouble for the engine oil. After leaky hose was replaced between the February and May samples, the water in the oil cleared right up, and solids started to improve.