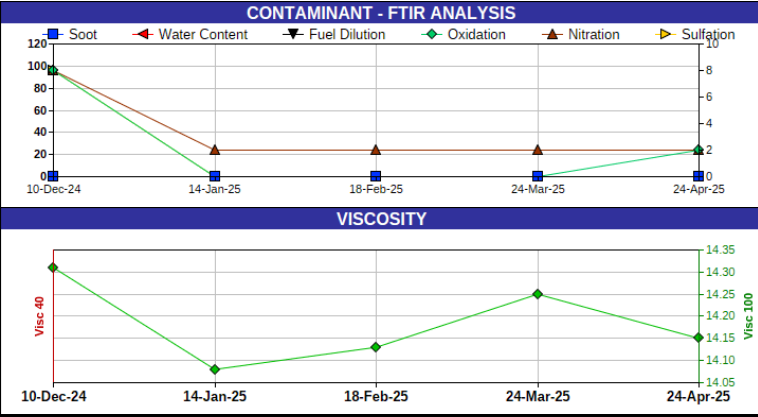
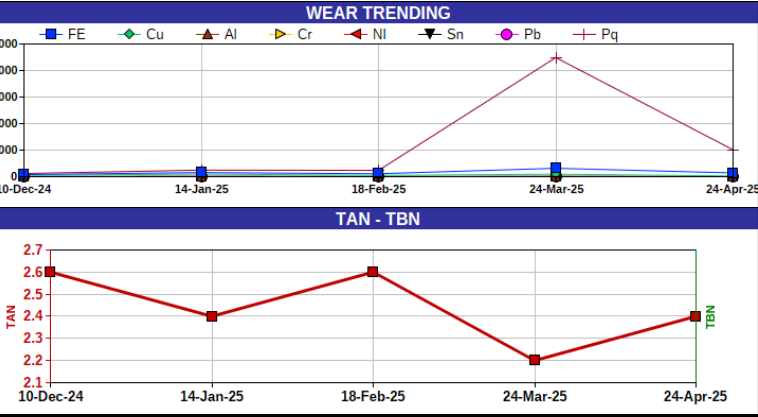


Customer Name	: PT.ANTAREJA MAHADA MAKMUR	Unit Number	: PM55805	Viscosity@100\B0C	:
Address	: ACEH	Component	: REAR FRONT DIFFERENTIAL	Viscosity@40\B0C	:
Unit Model	: ACTROS 4058	Component Matrix	: LI0020N085436AX	T A N	:
Serial Number	: W1T96441X20670207	Oil Matrix	: FUCHS_80w90		

Test Detail								Overall Aanalysis Result	
Lab. Number			J24120703	J25003997	J25018613	J25032926	J25045317	 CRITICAL	
Sampling Date			2024-12-05	2025-01-06	2025-02-09	2025-03-17	2025-04-18		
Received Date			2024-12-10	2025-01-13	2025-02-17	2025-03-24	2025-04-24		
Report Date			2024-12-10	2025-01-14	2025-02-18	2025-03-24	2025-04-24		
Hours on Oil			514	1029	466	512	515		
Hours on Unit			2472	2987	3453	3965	4480		
Lube Oil Name			FUCHS 80W90	FUCHS 80W90	FUCHS 80W90	FUCHS 80W90	FUCHS 80W90		
Oil Change			No	Yes	No	Yes	No		
Status			CAUTION	CRITICAL	CAUTION	SEVERE	CRITICAL		
Physical Test	Unit	Method						Caution	Critical
Visc@40C	cSt	ASTM D7279-20							
Visc@100C	cSt	ASTM D7279-20	14.31	14.08	14.13	14.25	14.15	12.62 15.42	11.22 16.82
T A N	mg KOH/g	ASTM D974-22	2.6	2.4	2.6	2.2	2.4	2.7	3.3
Metal Additive								Warning	Limit
Magnesium (Mg)	ppm	ASTM D5185-18	1	1	1	1	1		
Calcium (Ca)	ppm	ASTM D5185-18	45	113	89	71	76		
Zinc (Zn)	ppm	ASTM D5185-18	15	46	30	26	23		
Molybdenum (Mo)	ppm	ASTM D5185-18							
Boron (B)	ppm	ASTM D5185-18							
Phosphor (P)	ppm	ASTM D5185-18							
Contaminant									
Natrium (Na)	ppm	ASTM D5185-18	2	0	1	2	5		
Silicon (Si)	ppm	ASTM D5185-18	2	4	2	5	3		
Fuel Dilution	%v	ASTM E2412-23	0	0	0	0	0		
Fame Dilution	%v	ASTM E2412-23							
Water Content	%v	ASTM E2412-23	0	0	0	0	0		
Glycol	%v	ASTM E2412-23	0	0	0	0	0	0.1	0.2
Wear Metal									
Iron (Fe)	ppm	ASTM D5185-18	79	154	109	316	140		
Copper (Cu)	ppm	ASTM D5185-18	48	99	47	94	25		
Alumunium (Al)	ppm	ASTM D5185-18	0	2	1	1	1		
Chromium (Cr)	ppm	ASTM D5185-18	1	2	1	3	1		
Nickel (Ni)	ppm	ASTM D5185-18	0	1	0	2	1		
Tin (Sn)	ppm	ASTM D5185-18	3	8	3	9	2		
Lead (Pb)	ppm	ASTM D5185-18	6	15	6	12	3		
Pb 75th Percentile									
PQ Index	-	D8184-18	118	247	237	4488	1013		
Color		ASTM D1500-12							
FTIR								Warning	Limit
Soot	Abs/cm	ASTM E2412-23	0	0	0	0	0		
Oxidation	Abs/cm	ASTM E2412-23	8	0	0	0	2		
Nitration	Abs/cm	ASTM E2412-23	8	2	2	2	2		
Sulfation	Abs/cm	ASTM E2412-23	8	0	0	0	0		
Cleanliness									
4 µm	Particles/ml								
6 µm	Particles/ml								
14 µm	Particles/ml								
ISO CODE		ISO 4406 : 2021							
Foaming Characteristic									
Seq I	ml/ml	ASTM D892-18							
Seq II	ml/ml	ASTM D892-18							
Seq III	ml/ml	ASTM D892-18							



Source of Abnormality

PQ Index cukup tinggi, kemungkinan berasal dari ausan Sun Gear, planetary gear, ring gear, bevel gear, pinion gear, bearing. Pelumas belum diganti.

Action to be Taken

Cek kondisi magnetic drain plug. Cek abnormal noise. Cek umur final drive. Disarankan melakukan offline filtration/kidneyloop untuk mengurangi wear debris atau lakukan pergantian pelumas. Resampling 250 jam berikutnya untuk monitoring.