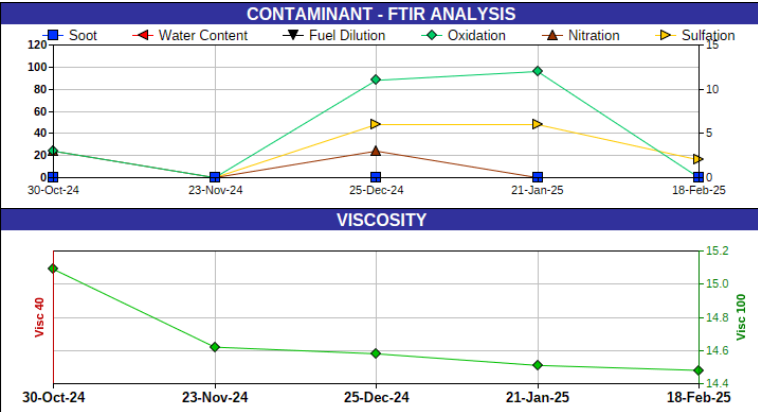
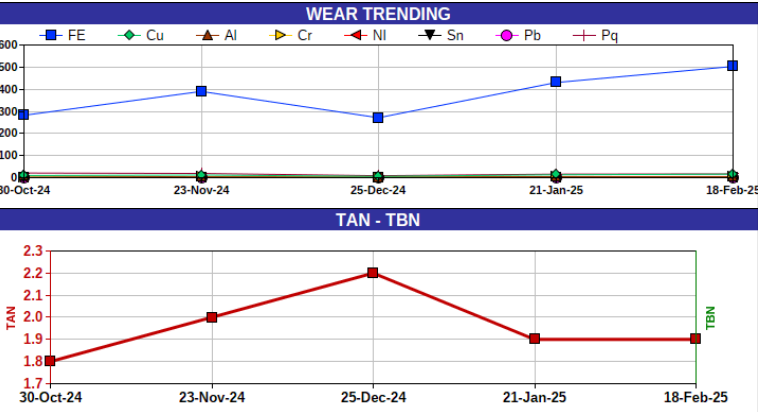


Customer Name	: PT.ANTAREJA MAHADA MAKMUR	Unit Number	: DA52525	Viscosity@100\B0C	: 14.4
Address	: ACEH	Component	: REAR REAR DIFFERENTIAL	Viscosity@40\B0C	:
Unit Model	: AXOR 2528	Component Matrix	: LI0020N085436AX	T A N	:
Serial Number	: MFJ400243PJ002302	Oil Matrix	: SPIRAX S3 AD 80W-90_PPA		

Test Detail								Overall Aanalysis Result	
Lab. Number			J24101743	J24113733	J24126060	J25007546	J25018909	 CRITICAL	
Sampling Date			2024-10-22	2024-11-17	2024-12-18	2025-01-14	2025-02-12		
Received Date			2024-10-28	2024-11-22	2024-12-24	2025-01-21	2025-02-17		
Report Date			2024-10-30	2024-11-23	2024-12-25	2025-01-21	2025-02-18		
Hours on Oil			486	494	513	998	519		
Hours on Unit			3461	3955	4468	4953	5472		
Lube Oil Name			SPIRAX S3 AD 80W-90_PPA	SPIRAX S3 AD 80W-90_PPA	SPIRAX S3 AD 80W-90_PPA	SPIRAX S3 AD 80W-90_PPA	SPIRAX S3 AD 80W-90_PPA		
Oil Change			Yes	Yes	No	Yes	No		
Status			CAUTION	CRITICAL	CAUTION	CRITICAL	CRITICAL		
Physical Test	Unit	Method						Caution	Critical
Visc@40C	cSt	ASTM D7279-20							
Visc@100C	cSt	ASTM D7279-20	15.09	14.62	14.58	14.51	14.48	12.96 15.84	11.52 17.28
T A N	mg KOH/g	ASTM D974-22	1.8	2	2.2	1.9	1.9	2.3	2.9
Metal Additive								Warning	Limit
Magnesium (Mg)	ppm	ASTM D5185-18	4	3	2	4	3		
Calcium (Ca)	ppm	ASTM D5185-18	14	10	11	15	11		
Zinc (Zn)	ppm	ASTM D5185-18	14	16	13	22	16		
Molybdenum (Mo)	ppm	ASTM D5185-18							
Boron (B)	ppm	ASTM D5185-18							
Phosphor (P)	ppm	ASTM D5185-18							
Contaminant								60 30	80 45
Natrium (Na)	ppm	ASTM D5185-18	0	7	2	2	7		
Silicon (Si)	ppm	ASTM D5185-18	23	20	9	19	26		
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	282	390	271	430	503	200	300
Copper (Cu)	ppm	ASTM D5185-18	10	12	6	13	16	40	60
Alumunium (Al)	ppm	ASTM D5185-18	8	4	2	5	5	20	30
Chromium (Cr)	ppm	ASTM D5185-18	2	3	2	4	4	6	10
Nickel (Ni)	ppm	ASTM D5185-18	0	1	1	1	1		
Tin (Sn)	ppm	ASTM D5185-18	1	2	1	2	2	10	15
Lead (Pb)	ppm	ASTM D5185-18	0	0	0	0	1	30	40
Pb 75th Percentile								5	10
PQ Index	-	D8184-18	21	19	9	16	17	300	500
Color		ASTM D1500-12							
FTIR								Warning	Limit
Soot	Abs/cm	ASTM E2412-23	0	0	0	0	0	30 30 30	50 50 50
Oxidation	Abs/cm	ASTM E2412-23	3	0	11	12	0		
Nitration	Abs/cm	ASTM E2412-23	3	0	3	0	0		
Sulfation	Abs/cm	ASTM E2412-23	0	0	6	6	2		
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

Wear metal Fe cukup tinggi, kemungkinan berasal dari 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. Disarankan melakukan offline filtration/kidneyloop untuk mengurangi wear debris atau lakukan pergantian pelumas. Resampling 250 jam berikutnya untuk monitoring.