

Account Information					
Company Information:		Equipment Information		Component Information	
Name:	MECH GROUP LTD	Type:	Industrial	Type:	
		ID:	00000000306	Model:	
Site:		Serial/Plate #:		Oil In use:	
Adress:		Category:	Construction, Mi		
Region:		Manufacturer:	Komatsu	Oil capacity:	
City:		Model:	Wheeled loaders	Comments:	
Authorized person:		Type:	WA600-1		

Sample Information	AnalysisType: Routine Analysis				
Oil Condition	Action				
Report Number	SMP-000001412				
Sample Acceptance Date					
ReportDate	02.09.2024				
Equipment Age (Km or Hours)					
Oil Age (Km or Hours)	211.00 Hours				
Top-up Volume, ltr	0.00				
Oil Changed	Yes				
Filter Changed	No				

Oil Condition	Test Method	Range	Value				
Kin. Viscosity @40 °C, cSt	ASTM D 445	0.00 - 0.00	82.90				
TBN, mg KOH/g		6.01 - 0.10	9.20				
Ageing (Oxidation), ABS/cm	ASTM E 2412	0.00 - 0.00	12.04				
IR Nitration, ABS/cm	ASTM E 2412	0.00 - 0.00	11.38				

Contaminants							
Sodium (Na), ppm	ASTM D 5185	0.00 - 35.01	6.57				
Potassium (K), ppm	ASTM D 5185	0.00 - 0.00	0.80				
Water, ppm	ASTM D6304	0.00 - 2001.00	890.00				
Silicon (Si), ppm	ASTM D 5185	0.00 - 40.01	9.34				

Metallic Elements							
Iron (Fe), ppm	ASTM D 5185	0.00 - 100.01	27.30				
Chromium (Cr), ppm	ASTM D 5185	0.00 - 15.01	1.54				
Aluminium (Al), ppm	ASTM D 5185	0.00 - 20.01	4.15				
Copper (Cu), ppm	ASTM D 5185	0.00 - 50.01	10.18				
Nickel (Ni), ppm	ASTM D 5185	0.00 - 0.00	0.35				
Lead (Pb), ppm	ASTM D 5185	0.00 - 30.01	3.15				
Tin (Sn), ppm	ASTM D 5185	0.00 - 15.01	1.14				

Oil Additive Elements							
Calcium (Ca), ppm	ASTM D 5185	0.00 - 0.00	1,062.00				
Phosphorus (P), ppm	ASTM D 5185	0.00 - 0.00	1,315.00				
Zinc (Zn), ppm	ASTM D 5185	0.00 - 0.00	1,067.00				
Molybdenum (Mb), ppm	ASTM D 5185	0.00 - 0.00	37.10				
Boron (B) ppm	ASTM D 5185	0.00 - 0.00	41.29				
Magnesium (Mg), ppm	ASTM D 5185	0.00 - 0.00	980.34				

Technical Conclusion - Prepared by Cristina Lungu
Observations: - Content of Pb, ppm is abnormally high; - Content of Si, ppm is abnormally high; - Content of Cu, ppm is severely high Diagnostics: - Suspect Cu wear source to be from valve train bushing, wrist pin bushing, cam bushings, oil cooler core, thrust washers, governor, connecting rods bearings, or valve gear train thrust buttons. - Suspect Pb wear source and corrosion of bearings (alloying element). - Suspect Si contamination source from dirt, dust ingresson, or malfunction of air filters; Secondary source to be alloying elements with aluminum engine block.
Actions: - Investigate equipment urgently. - Monitor. Resample at half of normal sampling frequency