



Normal



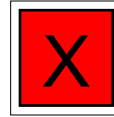
Caution



Serious



Critical



Customer Name Example Customer
 Address Unit 22-24,Business Park
 Big City,
 AB12 3AS
 Sample Date 23/01/2019
 Received Date 24/01/2019

Serial Number 3285441
 Unit No. / Model Wind Turbine
 Type Sampled system: Grease/Bearing
 JS Sys Job 10 Grease (Bearing)
 Job No
 Brand Kluber Kluberplex BEM 41 141 1 (NLGI)

Diagnosis: Grease shows considerable wear including iron, ferrous debris, Manganese and Chromium usually derived from the bearing elements and gear shafts as well as copper from yellow metal bearings and cage material. The higher LubeWear values compared to ASTMD5185 wear elements shows a skew towards larger wear particles indicating an abnormal wear mechanism is occurring. **Advice** At next practical opportunity, re-grease bearing. It would also be useful to inspect system for any abnormal noise, heat or vibration & feedback findings to the lab before the next sample to investigate further. Also consider reviewing any recent service interventions including any alignment changes, changes in operation or changes to loading that cause an increase in wear and feed back these findings to the lab as well.

Sample Details	Test Method	Units	Current Result	Previous #1	Previous #2
Lab No	-	-	<u>OAL1905397</u>		
Sample Date	-	-	23/01/2019		
Meter Hrs	-	-	0		
Fluid Hrs	-	-	0		
Fluid Added	-	-	0.00		
Fluid Changed	-	-	No		
Filter Changed	-	-	No		
Brand	-	-	Kluber Kluber		
Contaminants					
Appearance Solids	OAL Method	Visual	Metal Particles		
<u>Lithium (Li)</u>	ASTMD5185	mg/kg	1818		
<u>Potassium (K)</u>	ASTMD5185	mg/kg	5		
<u>Silicon (Si)</u>	ASTMD5185	mg/kg	84		
<u>Sodium (Na)</u>	ASTMD5185	mg/kg	25		
<u>Titanium (Ti)</u>	ASTMD5185	mg/kg	2		
<u>Vanadium (V)</u>	ASTMD5185	mg/kg	7		
<u>Vanadium (V)</u>	LubeWear	mg/kg	2		
<u>Water (free)</u>	Crackle & CaH2	%	<0.1		
Wear Metals					
<u>Aluminium</u>	ASTMD5185	mg/kg	59		
<u>Aluminium (Al)</u>	LubeWear	mg/kg	68		
<u>Chromium (Cr)</u>	ASTMD5185	mg/kg	412		
<u>Chromium (Cr)</u>	LubeWear	mg/kg	418		
<u>Copper (Cu)</u>	ASTMD5185	mg/kg	324		
<u>Copper (Cu)</u>	LubeWear	mg/kg	762		
<u>Ferrous Debris</u>	ASTMD8120	mg/kg	>10000		
<u>Iron (Fe)</u>	ASTMD5185	mg/kg	7489		
<u>Iron (Fe)</u>	LubeWear	mg/kg	21416		
<u>Lead (Pb)</u>	ASTMD5185	mg/kg	18		
<u>Lead (Pb)</u>	LubeWear	mg/kg	24		
<u>Manganese (Mn)</u>	ASTMD5185	mg/kg	227		
<u>Manganese (Mn)</u>	LubeWear	mg/kg	234		
<u>Nickel (Ni)</u>	ASTMD5185	mg/kg	221		
<u>Nickel (Ni)</u>	LubeWear	mg/kg	235		
<u>Silver (Ag)</u>	ASTMD5185	mg/kg	0		
<u>Silver (Ag)</u>	LubeWear	mg/kg	0		
<u>Tin (Sn)</u>	ASTMD5185	mg/kg	3		
<u>Tin (Sn)</u>	LubeWear	mg/kg	3		

Lab Address: Unit 5 Creamery Trade Park, Station Road, Mochdre, Colwyn Bay, LL28 5EF

Interpreted By Adam



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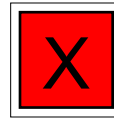
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Additives				
<u>Boron (B)</u>	ASTMD5185	mg/kg	178	
<u>Calcium (Ca)</u>	ASTMD5185	mg/kg	78	
<u>Magnesium (Mg)</u>	ASTMD5185	mg/kg	3	
<u>Molybdenum (Mo)</u>	ASTMD5185	mg/kg	3066	
<u>Phosphorus (P)</u>	ASTMD5185	mg/kg	877	
<u>Zinc (Zn)</u>	ASTMD5185	mg/kg	270	