Oil Analysis Laboratories
for when failure is not an option

A Normal B Caution C Serious X Critical

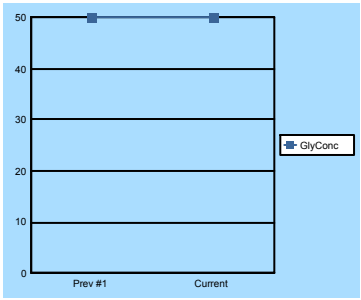
B

	Example Customer	Serial Number	MG1 HT-Water
Address	Unit 22-24,Business Park	Unit No. / Model	MG1 HT-Water
	Big City,	Type	Sampled system: Engine
	AB12 3AS	JS Sys	Aberdeen Coolant 1 (Engine)
Sample Date	23/08/2021	Job No Bottle Label	K032050
Received Date	24/08/2021	Brand	Generic Engine Coolant N/A

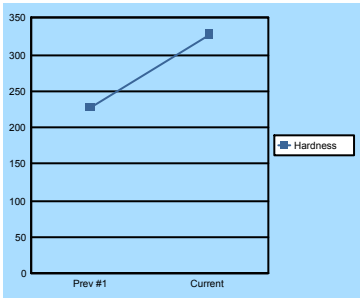
Diagnosis: Low level Magnesium present without any evidence of lube oil ingress suggests coolant has been mixed with or topped up with trace levels of tap water at some point rather than deionised water. Advice Tap water may not have any obvious detrimental effects while glycol content is sufficient to provide good freezing and boiling points of the mix. However, over time they can lead to deposits , which can clog cooling system pathways, either blocking or insulating the system and reducing heat exchange so the engine overheats. Chloride and Fluoride commonly found in tap water also cause severe corrosion. It is best practice to use deionised water when mixing or pre-mixed solutions for best coolant system health. Send a sample of water used in mixing for analysis if unsure whether it is deionised or not.

Sample Details	Test Basis	Units	Current Result	Previous #1	Previous #2
Lab No	-	-	OAL2516497	OAL1916228	
Sample Date	-	-	23/08/2021	05/03/2020	
Meter Hrs	-	-	0	0	
Fluid Hrs	-	-	0	0	
Fluid Added	-	-	0.00	0.00	
Fluid Changed	-	-	No	No	
Filter Changed	-	-	No	No	
Brand	-	-	Generic Engin	Generic Engin	
Physical Tests					
pH	mod. ASTM E70	-	8.0	8.8	
Condition					
Corr. Inhibition	OAL Method	%	>90	>90	
Freeze Protect.	OAL Method	Deg C	-39.2	-38.4	
Glycol Conc	OAL Method	%	50.4	49.5	
Contaminants					
Appearance Fluid	OAL Method	Visual	Bright	Bright	
Appearance Solids	OAL Method	Visual	Clear	Clear	
Cadmium (Cd)	mod. ASTMD6130	mg/kg	<0.1	<0.1	
Calcium (Ca)	mod. ASTMD6130	mg/kg	<0.1	3.6	
Chromium (Cr)	mod. ASTMD6130	mg/kg	<0.1	<0.1	
H2O Hardness	OAL Method	mg/L	327	228	
Lithium (Li)	mod. ASTMD6130	mg/kg	0.0	0.0	
Molybdenum (Mo)	mod. ASTMD6130	mg/kg	0.1	<0.1	
Phosphorus (P)	mod. ASTMD6130	mg/kg	<0.1	9.1	
Silicon (Si)	mod. ASTMD6130	mg/kg	3.1	7.7	
Titanium (Ti)	mod. ASTMD6130	mg/kg	<0.1	<0.1	
Vanadium (V)	mod. ASTMD6130	mg/kg	<0.1	<0.1	
Zinc (Zn)	mod. ASTMD6130	mg/kg	0.1	0.7	
Wear Metals					
Aluminium (Al)	mod. ASTMD6130	mg/kg	1.0	0.4	

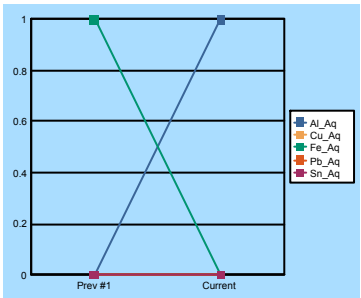
Condition



Contaminants



Wear Metals



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

Interpreted By Mark Willliams

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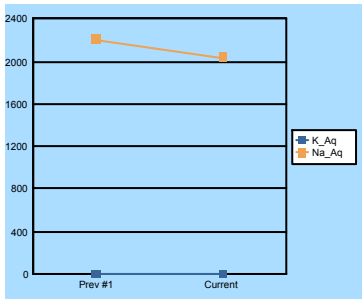
Wear Metals					
Copper (Cu)	mod. ASTMD6130	mg/kg	0.1	0.2	
Iron (Fe)	mod. ASTMD6130	mg/kg	0.3	0.8	
Lead (Pb)	mod. ASTMD6130	mg/kg	0.2	0.4	
Nickel (Ni)	mod. ASTMD6130	mg/kg	0.0	0.0	
Silver (Ag)	mod. ASTMD6130	mg/kg	0.0	0.4	
Tin (Sn)	mod. ASTMD6130	mg/kg	0.1	0.1	
Additives					
Boron (B)	mod. ASTMD6130	mg/kg	0.8	0.5	
Magnesium (Mg)	mod. ASTMD6130	mg/kg	78.1	34.1	
MoO4	OAL Method	mg/kg	0	0	
Phosphate	ISO22241/18611	mg/kg	<0.1	42.4	
Potassium (K)	mod. ASTMD6130	mg/kg	2.5	2.3	
Sodium (Na)	mod. ASTMD6130	mg/kg	2036.8	2206.3	

Additives



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Sample as received side view

Sample as received underneath view