WEAR
CONTAMINATION
FLUID CONDITION

NORMAL
ABNORMAL
ATTENTION

Area

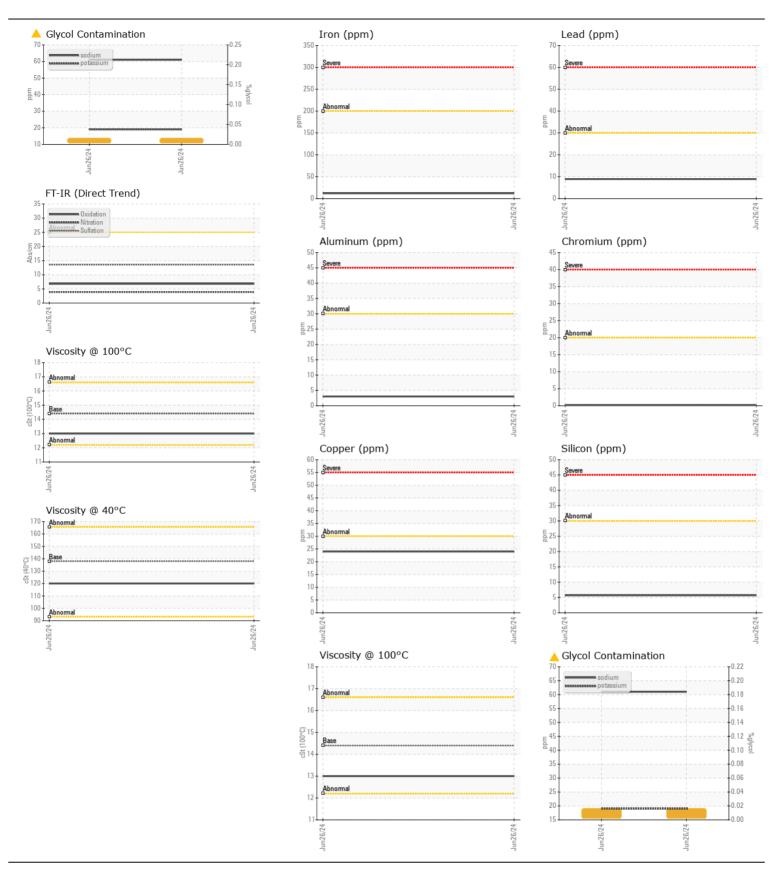
[6100313825]

## **FIRE PUMP PH2**

Diesel Engine

**DIESEL ENGINE OIL SAE 40 (--- GAL)** 

Test   U/OM   Maribod   Limitish   Current   Wa0021753   History   History	DIESEL ENGINE OIL SAE 40 ( GAL)							
Weadvise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
change at the time of sampling has been noted. We recommend an early resample to monitor this condition.    Machine Age	We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an	Sample Number		Client Info		WA0021753		
Contamination   Solidaria		Sample Date		Client Info		26 Jun 2024		
Filter Age		Machine Age	hrs	Client Info		480		
Coll Changed Filter Changed Filter Changed Sample Status		Oil Age	hrs	Client Info		37		
Filter Changed   Changed		Filter Age	hrs	Client Info		37		
Name		Oil Changed		Client Info		Changed		
Name		Filter Changed		Client Info		Changed		
Metal levels are typical for a new component breaking in.     Chromium   ppm   ASTILUSISIES   2   0		Sample Status				_		
Metal levels are typical for a new component breaking in.     Chromium   ppm   ASTILUSISIES   2   0	WEAD	Iron	nnm	ASTM D5185(m)	>200	12		
Mickel   ppm   ASTM D658(m)   >2   0	WEAR		• • • • • • • • • • • • • • • • • • • •					
Titianium   ppm   STUDSISS(m)   52   0	Metal levels are typical for a new component breaking in.							
Silver   ppm   ASTN 05185/m  > 20   c1								
Aluminum   ppm   ASTN D585(m)   3-00   9				\ /				
Lead   ppm   ASTM D5185(m)   3-30   24								
Copper   ppm   ASTM D5185/m   >30   24				. ,				
Tin				. ,				
Vanadium   ppm   ASTM D5185m    NONE   NON				. ,				
White Metal   Scalar   Visual*   NONE   NO				. ,	>15			
Solition			ppm	. ,				
CONTAMINATION		White Metal	scalar					
Potassium   ppm   ASTM D588(m)   2-20   A 19		Yellow Metal	scalar	Visual*	NONE	NONE		
Potassium   ppm   ASTM D588(m)   2-20   A 19	CONTAMINATION	0:1:		AOTM DE40E()	00	•		
Fuel WC Method >3.0 <1.0	CONTAMINATION		• • • • • • • • • • • • • • • • • • • •	, ,				
Valer   WC Method   SJ.5   NEG           Glycol   % ASTM D7922*   ▲ 0.016           Soot %   % ASTM D7922*   ▲ 0.016           Soot %   % ASTM D7824*   >3   0           Nitration   Abs/cm   ASTM D7644*   >3   0           Nitration   Abs/cm   ASTM D7644*   >3   0           Sulfation   Abs/cm   ASTM D7645*   >30   13.5           Sulfation   Abs/cm   ASTM D7415*   >30   13.5           Sand/Dis   scalar   Visual*   NONE			ppm					
Water   Wicker   Wicker   Wicker   Suz								
Soot % %   ASTM D7844*   >3   0         Nitration   Abs/cm   ASTM D7824*   >20   3.9         Sulfation   Abs/.tmm   ASTM D7824*   >20   3.9         Sulfation   Abs/.tmm   ASTM D7815*   >30   13.5         Silt   scalar   Visual*   NONE   NONE   NONE         Debris   scalar   Visual*   NONE   NONE   NONE         Appearance   scalar   Visual*   NORML   NORML   NORML         Appearance   scalar   Visual*   NORML   NORML         Molybdenum   ppm   ASTM D5185(m)   >2.16   61         Barium   ppm   ASTM D5185(m)   250   7         Barium   ppm   ASTM D5185(m)   100   105         Magnesium   ppm   ASTM D5185(m)   450   13         Magnesium   ppm   ASTM D5185(m)   450   13         Phosphorus   ppm   ASTM D5185(m)   450   1043         Zinc   ppm   ASTM D5185(m)   4250   2503         Visc @ 40°C   CSt   ASTM D7279(m)   14.4   13.0         Visc @ 40°C   CSt   ASTM D7279(m)   14.4   13.0					>0.2			
Nitration   Abs/cm   ASTM D7624*   >20   3.9         Sulfation   Abs/fmm   ASTM D7415*   >30   13.5         Silt   scalar   Visual*   NONE   NONE   NONE         Debris   scalar   Visual*   NONE   NONE   NONE         Sand/Dirt   scalar   Visual*   NONE   NONE   NONE         Appearance   scalar   Visual*   NORML   NORML   NORML         Appearance   scalar   Visual*   NORML   NORML   NORML         Debris   scalar   Visual*   NONE   NONE         Appearance   scalar   Visual*   NORML   NORML         The oil is no longer serviceable due to the presence of contaminants.   Sodium   ppm   ASTM D5185(m)   >216   61         Barium   ppm   ASTM D5185(m)   50   7         Barium   ppm   ASTM D5185(m)   100   105         Manganese   ppm   ASTM D5185(m)   450   13         Calcium   ppm   ASTM D5185(m)   450   13         Calcium   ppm   ASTM D5185(m)   1000   2423         Zinc   ppm   ASTM D5185(m)   105   910         Zinc   ppm   ASTM D5185(m)   1050   1043         Zinc   ppm   ASTM D5185(m)   4250   2503         Zinc   ASTM D5185(m)   4250   2503         Zinc   ASTM D5185(m)   4250   4250   4250         Zinc   ASTM D5185(m)   4250   4250		•						
Sulfation   Abs/.tmm   ASTM D7415"   >30   13.5         Silt   scalar   Visual*   NONE   NONE   NONE     Debris   scalar   Visual*   NONE   NONE   NONE   NONE     Sand/Dirt   scalar   Visual*   NONE   NORML   NORML   NORML     Appearance   scalar   Visual*   NORML   N								
Silt   Scalar   Visual*   NONE   N								
Debris   Scalar   Visual*   NONE   NONE   NONE   Sand/Dirt   Scalar   Visual*   NONE   NORML   NOR								
Sand/Dirt   Scalar   Visual*   NONE   NONE   Appearance   Scalar   Visual*   NORML								
Appearance   Scalar   Visual*   NORML   NORM			scalar					
Codor Emulsified Water   Scalar   Visual*   NORML		Sand/Dirt	scalar	Visual*				
Emulsified Water   scalar   Visual*   >0.2   NEG		Appearance	scalar	Visual*	NORML	NORML		
Sodium   ppm   ASTM D5185(m)   >216   61		Odor	scalar	Visual*	NORML	NORML		
Boron   ppm   ASTM D5185(m)   250   7		Emulsified Water	scalar	Visual*	>0.2	NEG		
Boron   ppm   ASTM D5185(m)   250   7	ELUID CONDITION	C = ali		ACTAIDE10E(**)	010	64		
Barium   ppm   ASTM D5185(m)   10   0         Molybdenum   ppm   ASTM D5185(m)   100   105         Manganese   ppm   ASTM D5185(m)   450   13         Magnesium   ppm   ASTM D5185(m)   450   13         Calcium   ppm   ASTM D5185(m)   3000   2423         Phosphorus   ppm   ASTM D5185(m)   1150   910         Zinc   ppm   ASTM D5185(m)   1350   1043         Sulfur   ppm   ASTM D5185(m)   4250   2503         Oxidation   Abs/.1mm   ASTM D7414*   >25   6.8         Visc @ 40°C   CSt   ASTM D7279(m)   138   120         Visc @ 100°C   CSt   ASTM D7279(m)   14.4   13.0	FLUID CONDITION			. ,				
Molybdenum ppm ASTM D5185(m) 100 105 Manganese ppm ASTM D5185(m) 450 13 Calcium ppm ASTM D5185(m) 3000 2423 Phosphorus ppm ASTM D5185(m) 1150 910 Zinc ppm ASTM D5185(m) 1350 1043 Sulfur ppm ASTM D5185(m) 4250 2503 Coxidation Abs/.1mm ASTM D7414* >25 6.8 Visc @ 40°C cSt ASTM D7279(m) 138 120 Visc @ 100°C cSt ASTM D7279(m) 14.4 13.0	The oil is no longer serviceable due to the presence of contaminants.			. ,				
Manganese       ppm       ASTM D5185(m)       <1				1 /				
Magnesium         ppm         ASTM D5185(m)         450         13             Calcium         ppm         ASTM D5185(m)         3000         2423             Phosphorus         ppm         ASTM D5185(m)         1150         910             Zinc         ppm         ASTM D5185(m)         1350         1043             Sulfur         ppm         ASTM D5185(m)         4250         2503             Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         CSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0		•			100			
Calcium         ppm         ASTM D5185(m)         3000         2423             Phosphorus         ppm         ASTM D5185(m)         1150         910             Zinc         ppm         ASTM D5185(m)         1350         1043             Sulfur         ppm         ASTM D5185(m)         4250         2503             Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         cSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0		-	• • • • • • • • • • • • • • • • • • • •		450			
Phosphorus         ppm         ASTM D5185(m)         1 150         910             Zinc         ppm         ASTM D5185(m)         1350         1043             Sulfur         ppm         ASTM D5185(m)         4250         2503             Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         cSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0		•		\ /				
Zinc         ppm         ASTM D5185(m)         1350         1043             Sulfur         ppm         ASTM D5185(m)         4250         2503             Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         cSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0								
Sulfur         ppm         ASTM D5185(m)         4250         2503             Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         cSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0		•		\ /				
Oxidation         Abs/.1mm         ASTM D7414*         >25         6.8             Visc @ 40°C         cSt         ASTM D7279(m)         138         120             Visc @ 100°C         cSt         ASTM D7279(m)         14.4         13.0								
Visc @ 40°C       cSt       ASTM D7279(m)       138       120           Visc @ 100°C       cSt       ASTM D7279(m)       14.4       13.0								
Visc @ 100°C cSt ASTM D7279(m) 14.4 13.0								
Viscosity Index (VI) Scale ASTM D2270* 102 101				. ,				
		Viscosity Index (VI)	Scale	ASTM D2270*	102	101		





ISO 17025:2017
Accredited
Laboratory

**Laboratory**: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Sample No.**: WA0021753 **Received**: 03 Jul 2024

 Sample No.
 : WA0021753
 Received
 : 03 Jul 2024

 Lab Number
 : 02645137
 Tested
 : 04 Jul 2024

 Unique Number
 : 5802676
 Diagnosed
 : 04 Jul 2024 - Wes Davis

**Test Package**: MOB 1 (Additional Tests: Glycol, KV40, VI, Visual)

To discuss this sample report, contact Customer Service at 1-800-268-2131.

Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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