**WEAR** CONTAMINATION **FLUID CONDITION** 

**NORMAL NORMAL NORMAL** 



Machine Id 414007 Diesel Engine

Test	SAE 5W30 ( GAL)							
Resample at the next service interval to monitor.   Sample Date   Client Info   CR1003798		Test	HOM	Method	Limit/Δhn	Current	History1	History2
Sample Date	TECOMMENDATION		OOW		LITTIO / COTT			
Machine Age   hrs	Resample at the next service interval to monitor.	•						
Oil Age			hrs					
Filter Age		•						
Clear trid								
Filter Changed   Sample Status		· ·	0					
Normal   N		•						
Iron		-				_		
Chromium   ppm   ASTINDSISIN   20   c1								
Nickel   ppm   ASTIN DOSIGN   > 5   6       Titanium   ppm   ASTIN DOSIGN   > 2   0       Titanium   ppm   ASTIN DOSIGN   > 2   1       Aluminum   ppm   ASTIN DOSIGN   > 30   238       Aluminum   ppm   ASTIN DOSIGN   > 30   238       Aluminum   ppm   ASTIN DOSIGN   > 15   4       Aluminum   ppm   ASTIN DOSIGN   > 15   4       Aluminum   ppm   ASTIN DOSIGN   > 5   6       Aluminum   ppm   ASTIN DOSIGN   > 20   13       Aluminum   ppm   ASTIN DOSIGN   > 5   4       Aluminum   ppm   ASTIN DOSIGN   > 5   5       Aluminum   ppm   ASTIN DOSIGN   > 5   6       Aluminum   ppm   ASTIN DOSIGN   > 5   5       Aluminum   ppm   ASTIN DOSIGN   > 5	WEAR	Iron	ppm	ASTM D5185(m)	>120	32		
Titanium   ppm		Chromium	ppm	ASTM D5185(m)	>20	<1		
Silver		Nickel	ppm	ASTM D5185(m)	>5	6		
Aluminum   ppm   ASTM DSI6S(m)   >20   13		Titanium	ppm	ASTM D5185(m)	>2	0		
Lead		Silver	ppm	ASTM D5185(m)	>2	1		
Copper   ppm   ASTM D6185m  >330   238		Aluminum	ppm	ASTM D5185(m)	>20	13		
Tin		Lead	ppm	ASTM D5185(m)	>40	6		
Vanadium   ppm   ASTMD5185/m   NONE   NONE   VLTTE   NONE   NOTE   VLTTE   NONE   NOTE   NONE   NOTE   NO		Copper	ppm	ASTM D5185(m)	>330	238		
White Metal Yellow Metal Yell		Tin	ppm	ASTM D5185(m)	>15	4		
Vellow Metal   Scalar   Visual*   NONE   VLITE             CONTAMINATION         Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.		Vanadium	ppm	ASTM D5185(m)		0		
CONTAMINATION   CONTAMINATIO   CONTAMINATION   CONTAMINATION   CONTAMINATION   CONTAMINATION		White Metal	scalar	Visual*	NONE	NONE		
Potassium   ppm   ASTM D5185(m)   >20   34		Yellow Metal	scalar	Visual*	NONE	VLITE		
Potassium   ppm   ASTM D5185(m)   >20   34	CONTABINATION							
Flevalted aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.    Fuel	CONTAMINATION			` '				
Volume   V	your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no		ppm	,		-		
Glycol   WC Method   NEG								
Soot %					>0.2			
Nitration   Abs/cm   ASTM D7624*   >20   9.3         Sulfation   Abs/.tmm   ASTM D7415*   >30   25.9         Silt   scalar   Visual*   NONE   NONE   NONE         Debris   scalar   Visual*   NONE   NONE   NONE         Appearance   scalar   Visual*   NONE   NONE   NONE         Appearance   scalar   Visual*   NORML		-	0.1		4			
Sulfation   Abs/.tmm   ASSM.D7415'   >30   25.9         Silt   scalar   Visual*   NONE   NONE   NONE   NONE     Debris   scalar   Visual*   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   Visual*   NORML   NOR								
Silt   Scalar   Visual*   NONE   NORML   NO								
Debris   Scalar   Visual*   NONE   NONE   Sand/Dirt   Scalar   Visual*   NONE   NONE   NONE   Sand/Dirt   Scalar   Visual*   NONE   NONE   Scalar   Visual*   NORML   NORML   NORML   NORML   NORML   Scalar   NORML								
Sand/Dirt   Scalar   Visual*   NONE   NONE   Appearance   Scalar   Visual*   NORML								
Appearance   Scalar   Visual*   NORML   NORM								
Codor   Scalar   Visual*   NORML   N								
Emulsified Water   scalar   Visual*   >0.2   NEG								
Sodium   ppm   ASTM D5185(m)   241								
Boron   ppm   ASTM D5185(m)   241           Barium   ppm   ASTM D5185(m)   <1           Molybdenum   ppm   ASTM D5185(m)   119           Magnesium   ppm   ASTM D5185(m)   3           Magnesium   ppm   ASTM D5185(m)   703           Calcium   ppm   ASTM D5185(m)   1422           Phosphorus   ppm   ASTM D5185(m)   673           Zinc   ppm   ASTM D5185(m)   755           Sulfur   ppm   ASTM D5185(m)   1999           Oxidation   Abs/.1mm   ASTM D7414* > 25   22.5	<u></u>		Scalai	visuai	>0.2			
Boron   ppm   ASTM D5185(m)   241           Barium   ppm   ASTM D5185(m)   <1           Molybdenum   ppm   ASTM D5185(m)   119           Magnesium   ppm   ASTM D5185(m)   3           Magnesium   ppm   ASTM D5185(m)   703           Calcium   ppm   ASTM D5185(m)   1422           Phosphorus   ppm   ASTM D5185(m)   673           Zinc   ppm   ASTM D5185(m)   755           Sulfur   ppm   ASTM D5185(m)   1999           Oxidation   Abs/.1mm   ASTM D7414* > 25   22.5	FLUID CONDITION	Sodium	ppm	ASTM D5185(m)		4		
The condition of the oil is acceptable for the time in service.    Barium   ppm   ASTM D5185(m)   119         Molybdenum   ppm   ASTM D5185(m)   3         Magnesium   ppm   ASTM D5185(m)   703         Calcium   ppm   ASTM D5185(m)   1422         Phosphorus   ppm   ASTM D5185(m)   673         Zinc   ppm   ASTM D5185(m)   755         Sulfur   ppm   ASTM D5185(m)   1999         Oxidation   Abs/.1mm   ASTM D7414* > 25   22.5		Boron		ASTM D5185(m)		241		
Molybdenum         ppm         ASTM D5185(m)         119             Manganese         ppm         ASTM D5185(m)         3             Magnesium         ppm         ASTM D5185(m)         703             Calcium         ppm         ASTM D5185(m)         1422             Phosphorus         ppm         ASTM D5185(m)         673             Zinc         ppm         ASTM D5185(m)         755             Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5	The condition of the oil is acceptable for the time in service.	Barium		ASTM D5185(m)		<1		
Magnesium         ppm         ASTM D5185(m)         703             Calcium         ppm         ASTM D5185(m)         1422             Phosphorus         ppm         ASTM D5185(m)         673             Zinc         ppm         ASTM D5185(m)         755             Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Molybdenum		ASTM D5185(m)		119		
Magnesium         ppm         ASTM D5185(m)         703             Calcium         ppm         ASTM D5185(m)         1422             Phosphorus         ppm         ASTM D5185(m)         673             Zinc         ppm         ASTM D5185(m)         755             Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Manganese	ppm	ASTM D5185(m)		3		
Phosphorus         ppm         ASTM D5185(m)         673             Zinc         ppm         ASTM D5185(m)         755             Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Magnesium	ppm	ASTM D5185(m)		703		
Zinc         ppm         ASTM D5185(m)         755             Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Calcium	ppm	ASTM D5185(m)		1422		
Sulfur         ppm         ASTM D5185(m)         1999             Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Phosphorus	ppm	ASTM D5185(m)		673		
Oxidation         Abs/.1mm         ASTM D7414*         >25         22.5		Zinc	ppm	ASTM D5185(m)		755		
		Sulfur	ppm	ASTM D5185(m)		1999		
Visc @ 100°C   cSt   ASTM D7279(m)   11.0   9.6		Oxidation	Abs/.1mm	ASTM D7414*	>25	22.5		
		Visc @ 100°C	cSt	ASTM D7279(m)	11.0	9.6		





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

: GFL0097996 Lab Number : 02615921 Unique Number : 5733031

Diagnosed Test Package : MOB 1 (Additional Tests: 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.

Received

**Tested** 

: 15 Feb 2024

: 15 Feb 2024

: 15 Feb 2024 - Wes Davis

GFL Environmental - 593

4421 Boban Drive Nanaimo, BC **CA V9T 6A6** Contact: Patrick Rutti prutti@gflenv.com T: (250)739-3345