

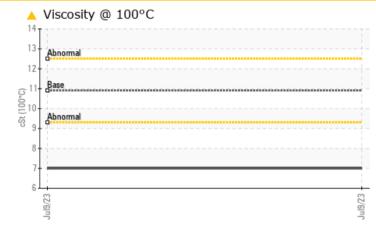
Machine Id 531435 []

# **PROBLEM SUMMARY**

Sample Rating Trend VISCOSITY

#### Component --Diesel Engine Fluid DIESEL ENGINE OIL SAE 10W30 (--- GAL)

# COMPONENT CONDITION SUMMARY



# RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC	C TEST	RESULT	S		
Sample Status				ATTENTION	 
Visc @ 100°C	cSt	ASTM D445	10.9	<u> </u>	 

Customer Id: MCLLUB Sample No.: PCA0073123 Lab Number: 06032265 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

RECOMMENDED ACTIONS					
Action	Status	Date	Done By	Description	
Change Fluid			?	Oil and filter change at the time of sampling has been noted.	
Change Filter			?	Oil and filter change at the time of sampling has been noted.	

# HISTORICAL DIAGNOSIS



# **OIL ANALYSIS REPORT**





Machine Id 531435 []

#### Component --Diesel Engine Fluid DIESEL ENGINE OIL SAE 10W30 (--- GAL)

## DIAGNOSIS

## Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

## Wear

All component wear rates are normal.

## Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

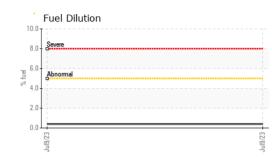
## Fluid Condition

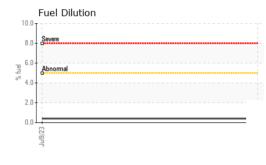
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

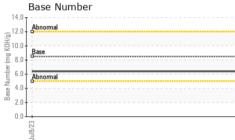
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0073123		
Sample Date		Client Info		09 Jul 2023		
Machine Age	hrs	Client Info		6308		
Oil Age	hrs	Client Info		3000		
Oil Changed		Client Info		Changed		
Sample Status				ATTENTION		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	3		
Lead	ppm	ASTM D5185m	>40	0		
Copper	ppm	ASTM D5185m	>330	3		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	Method ASTM D5185m	limit/base 250	current 2	history1	history2
	ppm ppm					
Boron		ASTM D5185m	250	2		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	2 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	2 0 62		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	2 0 62 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	2 0 62 <1 1074		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	2 0 62 <1 1074 1270	   	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	2 0 62 <1 1074 1270 1198	  	   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	2 0 62 <1 1074 1270 1198 1464		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	2 0 62 <1 1074 1270 1198 1464 3301		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	2 0 62 <1 1074 1270 1198 1464 3301 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	250 10 100 450 3000 1150 1350 4250 limit/base	2 0 62 <1 1074 1270 1198 1464 3301 current 6	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	2 0 62 <1 1074 1270 1198 1464 3301 <u>current</u> 6 9	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	2 0 62 <1 1074 1270 1198 1464 3301 <u>current</u> 6 9 <1	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >20 >5	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4	     history1   	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 bimit/base >25 20 >5 bimit/base >3	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4 current	     history1    history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm %	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 bimit/base >25 20 >5 bimit/base >3	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4 current 0.1	     history1    history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur CONTAMINAN Solicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm %	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>bimit/base</b> >20 <b>bimit/base</b> >3 >20	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4 current 0.1 13.1	history1 history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm %	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >20 >5 <b>Iimit/base</b> >3 >20 >3 >20	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4 current 0.1 13.1 23.5	       history1    history1  history1	     history2   history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 <b>imit/base</b> >3 >20 >30 <b>imit/base</b> >30	2 0 62 <1 1074 1270 1198 1464 3301 current 6 9 <1 0.4 current 0.1 13.1 23.5 current	       history1    history1    history1  history1	    history2  history2  history2  history2  history2  history2



# **OIL ANALYSIS REPORT**

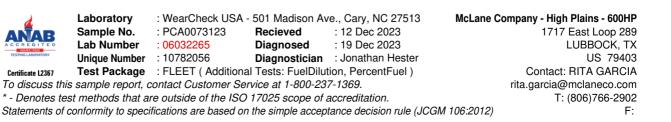






VISUAL method limit/base history1 history2 current NONE White Metal \*Visual NONE scalar Yellow Metal \*Visual NONE NONE scalar Precipitate scalar \*Visual NONE NONE Silt scalar \*Visual NONE NONE Debris \*Visual NONE NONE scalar NONE Sand/Dirt scalar \*Visual NONE NORML Appearance \*Visual NORML scalar Odor \*Visual NORML scalar NORML **Emulsified Water** scalar \*Visual >0.2 NEG Free Water scalar \*Visual NEG **FLUID PROPERTIES** method limit/base current history history2 Visc @ 100°C cSt ASTM D445 10.9 **A** 7 GRAPHS Ferrous Alloys 10 14 12 nicke 10 2 n. Non-ferrous Metals 10 lead Viscosity @ 100°C Base Number 1 14. 12.0 (B/HOX Bu). () 100-0 10 Base 6.0 Ab Base 4.0 2.0





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