MOB III

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	SEVERE
OIL CONDITION	ATTENTION

Machine Id
MCI 5604
Component
Rear Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

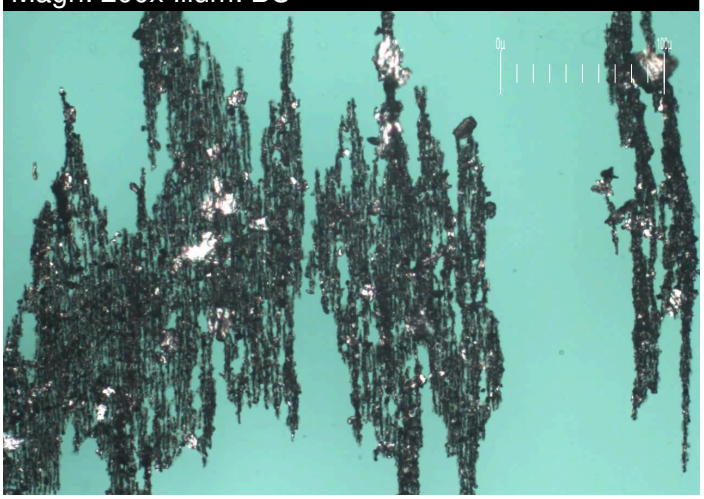
RECOMMENDATION

We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend an early resample to monitor this condition.

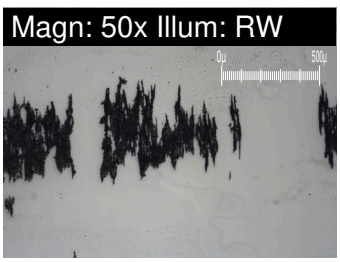
WEAR

Metal levels are typical for a new component breaking in. The ferrography results are normal indicating no abnormal wear in the system.

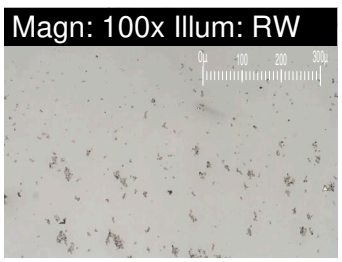
Magn: 200x Illum: BC



Magn: 50x Illum: RW



Magn: 100x Illum: RW



Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0916721	WC0907680	WC
Sample Date		Client Info		25 Apr 2024	23 Feb 2024	07 Jun 2018
Machine Age	kms	Client Info		0	1166692	35463
Oil Age	kms	Client Info		400	0	0
Filter Age	kms	Client Info		400	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Filter Changed		Client Info		Not Changd	N/A	N/A
Sample Status				SEVERE	NORMAL	NORMAL
PQ		ASTM D8184*		0	0	---
Iron	ppm	ASTM D5185(m)	>100	4	12	23
Chromium	ppm	ASTM D5185(m)	>20	0	<1	1
Nickel	ppm	ASTM D5185(m)	>4	0	2	<1
Titanium	ppm	ASTM D5185(m)		<1	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	2	2
Lead	ppm	ASTM D5185(m)	>40	0	<1	2
Copper	ppm	ASTM D5185(m)	>330	11	<1	16
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	NONE
Large Particles		DR-Ferr*		41.1	8.1	---
Small Particles		DR-Ferr*		20.0	7.8	---
Total Particles		DR-Ferr*	>---	61.1	15.9	---
Large Particles Percentage	%	DR-Ferr*		34.5	1.9	---
Severity Index		DR-Ferr*		867	2	---
Ferrous Rubbing	Scale 0-10	ASTM D7684*		4	2	
Ferrous Sliding	Scale 0-10	ASTM D7684*				
Ferrous Cutting	Scale 0-10	ASTM D7684*				
Ferrous Rolling	Scale 0-10	ASTM D7684*		2	1	
Ferrous Break-in	Scale 0-10	ASTM D7684*				
Ferrous Spheres	Scale 0-10	ASTM D7684*				
Ferrous Black Oxides	Scale 0-10	ASTM D7684*		1	1	
Ferrous Red Oxides	Scale 0-10	ASTM D7684*				
Ferrous Corrosive	Scale 0-10	ASTM D7684*		1		
Ferrous Other	Scale 0-10	ASTM D7684*				
Nonferrous Rubbing	Scale 0-10	ASTM D7684*				
Nonferrous Sliding	Scale 0-10	ASTM D7684*				
Nonferrous Cutting	Scale 0-10	ASTM D7684*				
Nonferrous Rolling	Scale 0-10	ASTM D7684*				
Nonferrous Other	Scale 0-10	ASTM D7684*				

CONTAMINANTS

Test for glycol is positive. There is a high concentration of glycol present in the oil. There is a moderate concentration of water present in the oil.

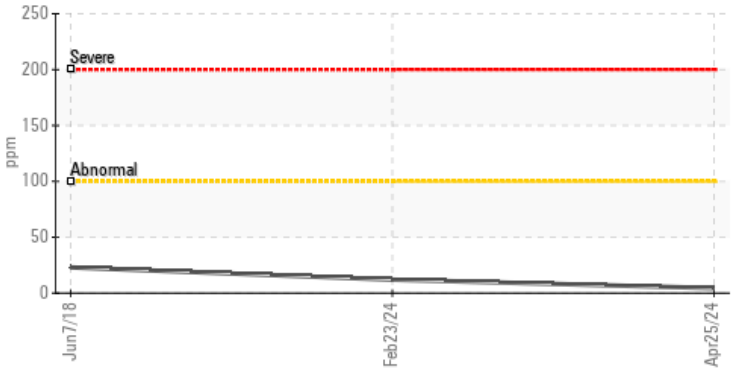
Silicon	ppm	ASTM D5185(m)	>25	**30**	4	58
Potassium	ppm	ASTM D5185(m)	>20	**2**	3	5
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Water	%	ASTM D6304*	>0.2	**NEG**	NEG	NEG
Glycol	%	ASTM D7922*		▲ **0.649**	NEG	NEG
Soot %	%	ASTM D7844*	>3	**0**	0.3	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**5.6**	8.8	10.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**14.6**	24.1	24.3
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	**VLITE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	▲ **.5%**	NEG	NEG
Carbonaceous Material	Scale 0-10	ASTM D7684*				
Sand/Dirt	Scale 0-10	ASTM D7684*		**1**		
Fibres	Scale 0-10	ASTM D7684*				
Spheres	Scale 0-10	ASTM D7684*				
Other	Scale 0-10	ASTM D7684*		**1**	1	

OIL CONDITION

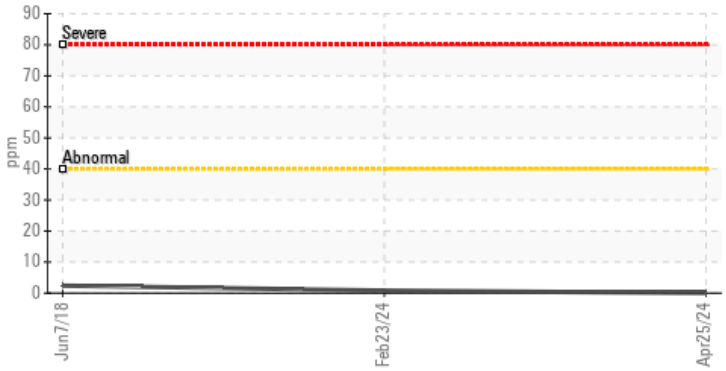
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>158	● **26**	12	5
Boron	ppm	ASTM D5185(m)	250	**8**	<1	44
Barium	ppm	ASTM D5185(m)	10	**<1**	0	4
Molybdenum	ppm	ASTM D5185(m)	100	**1**	0	35
Manganese	ppm	ASTM D5185(m)		**<1**	0	2
Magnesium	ppm	ASTM D5185(m)	450	**22**	11	433
Calcium	ppm	ASTM D5185(m)	3000	**2260**	3067	1800
Phosphorus	ppm	ASTM D5185(m)	1150	**845**	1121	855
Zinc	ppm	ASTM D5185(m)	1350	**1011**	1332	1066
Sulfur	ppm	ASTM D5185(m)	4250	**2936**	3942	2330
Oxidation	Abs/.1mm	ASTM D7414*	>25	**8.9**	14.7	23.1
Base Number (BN)	mg KOH/g	ASTM D2896*	8.5	**10.15**	8.17	---
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	**14.6**	12.0	12.8
Lubricant Degradation	Scale 0-10	ASTM D7684*				

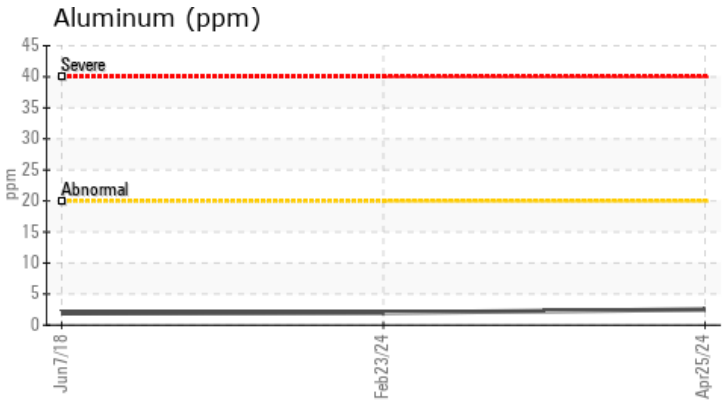
Iron (ppm)



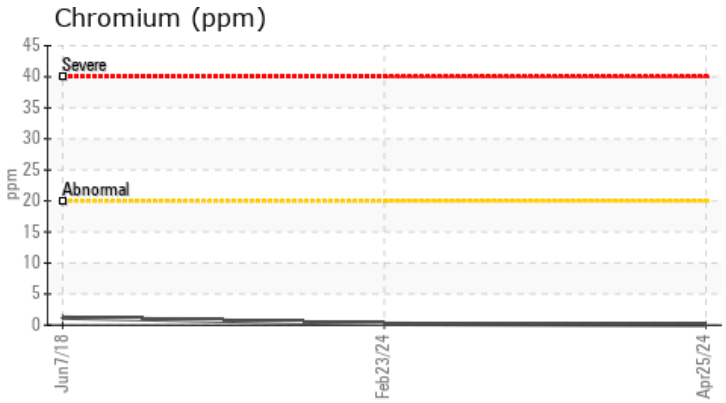
Lead (ppm)



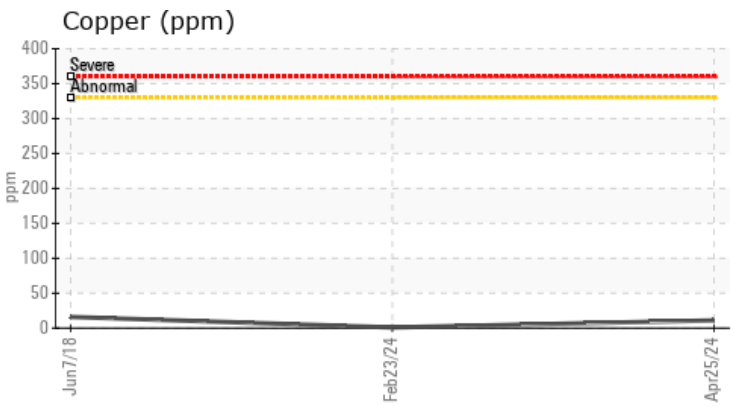
Aluminum (ppm)



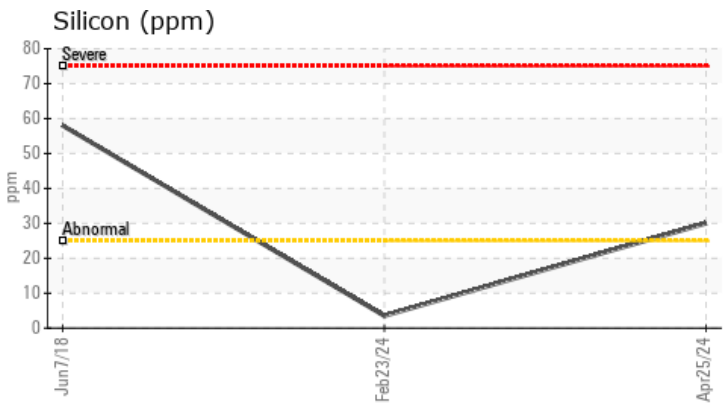
Chromium (ppm)



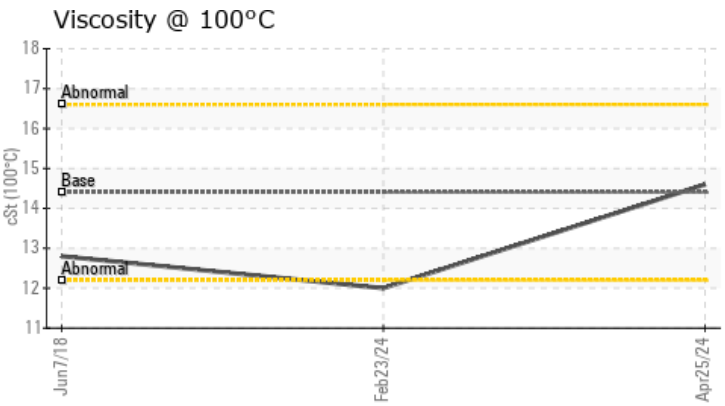
Copper (ppm)



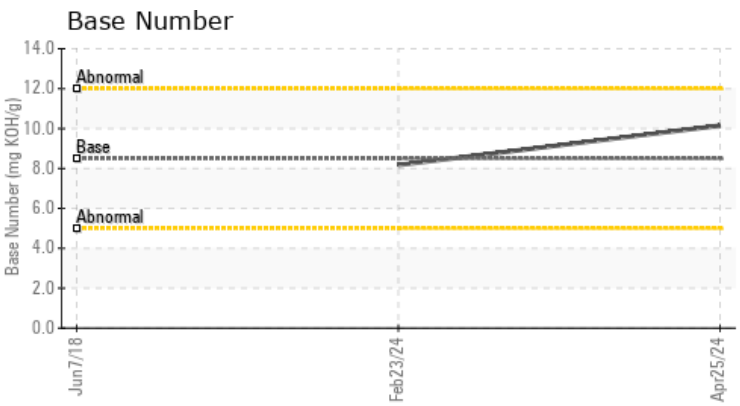
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0916721 **Received** : 03 May 2024
Lab Number : 02633054 **Tested** : 06 May 2024
Unique Number : 5774207 **Diagnosed** : 06 May 2024 - Kevin Marson
Test Package : MOB 3 (Additional Tests: Glycol, KF)

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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