MOB I LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
3721002
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (--- GAL)

RECOMMENDATION

Please note that all wear metal and contaminant levels are being considered accumulative. We advise that you check for faulty combustion and a possible overheat condition. The oil change at the time of sampling has been noted.

WEAR

All component wear rates are normal.

CONTAMINATION

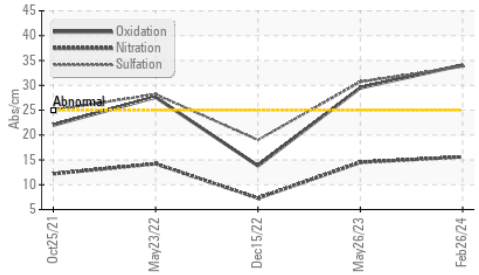
There is an abnormal level of sulfation indicated. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

FLUID CONDITION

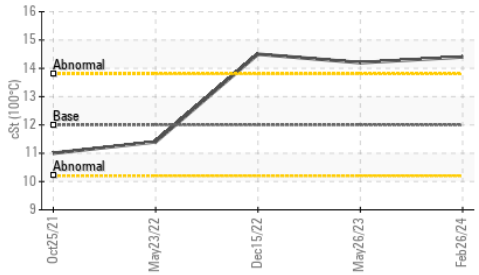
A small degree of oil oxidation was indicated. Viscosity of sample indicates oil is within SAE 15W40 range, advise investigate. The oil is no longer serviceable.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**PC0084000**	PC0074762	PC0066872
Sample Date		Client Info		**26 Feb 2024**	26 May 2023	15 Dec 2022
Machine Age	mls	Client Info		**287799**	226908	172343
Oil Age	mls	Client Info		**61000**	54000	56000
Filter Age	mls	Client Info		**61000**	54000	56000
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>200	**47**	41	61
Chromium	ppm	ASTM D5185(m)	>6	**2**	2	3
Nickel	ppm	ASTM D5185(m)	>3	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	<1
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>50	**13**	15	28
Lead	ppm	ASTM D5185(m)	>10	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>50	**9**	11	32
Tin	ppm	ASTM D5185(m)	>6	**<1**	<1	2
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Silicon	ppm	ASTM D5185(m)	>50	**6**	6	7
Potassium	ppm	ASTM D5185(m)	>20	**23**	23	52
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	ASTM D7844*	>3	**1**	0.8	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**15.6**	14.5	7.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	▲ **33.8**	30.7	19.0
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185(m)		**4**	3	3
Boron	ppm	ASTM D5185(m)		**16**	20	4
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**50**	61	64
Manganese	ppm	ASTM D5185(m)		**<1**	<1	1
Magnesium	ppm	ASTM D5185(m)		**353**	601	1045
Calcium	ppm	ASTM D5185(m)		**2035**	1753	1242
Phosphorus	ppm	ASTM D5185(m)		**1040**	1147	1148
Zinc	ppm	ASTM D5185(m)		**1313**	1315	1322
Sulfur	ppm	ASTM D5185(m)		**2498**	2355	2005
Oxidation	Abs/.1mm	ASTM D7414*	>25	▲ **34.1**	29.5	13.8
Visc @ 40°C	cSt	ASTM D7279(m)	81	▲ **109**	105	111
Visc @ 100°C	cSt	ASTM D7279(m)	12.	▲ **14.4**	14.2	14.5
Viscosity Index (VI)	Scale	ASTM D2270*	141	**134**	137	133

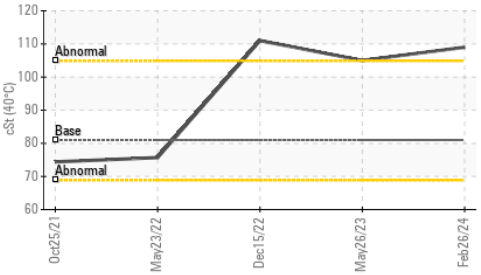
FT-IR (Direct Trend)



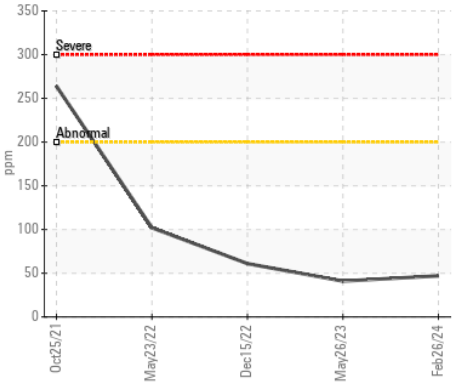
Viscosity @ 100°C



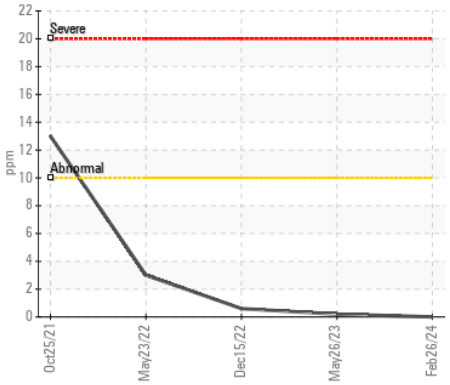
Viscosity @ 40°C



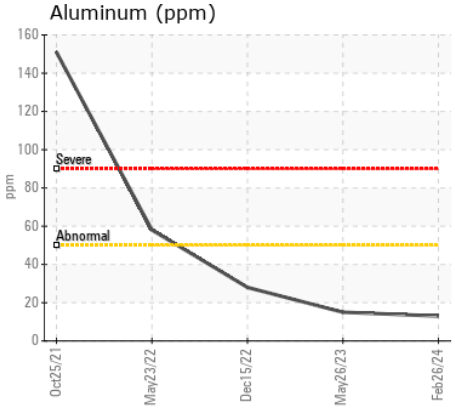
Iron (ppm)



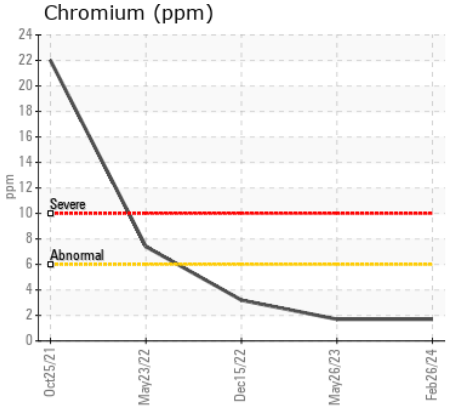
Lead (ppm)



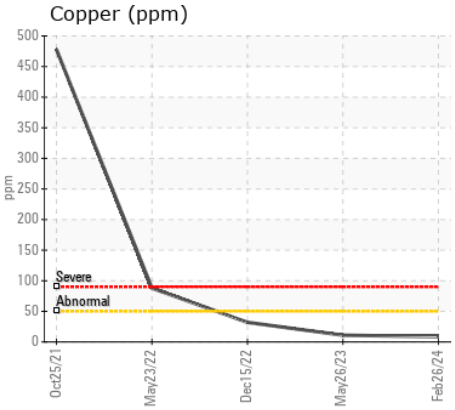
Aluminum (ppm)



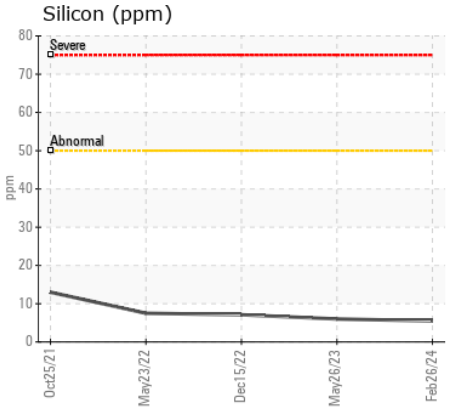
Chromium (ppm)



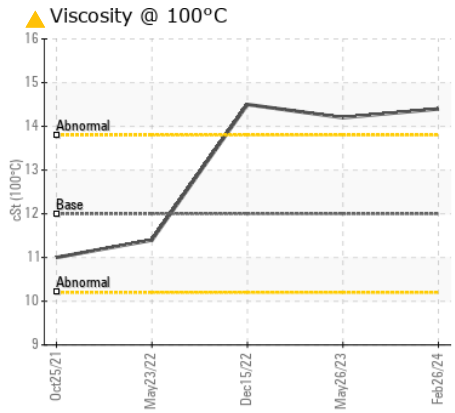
Copper (ppm)



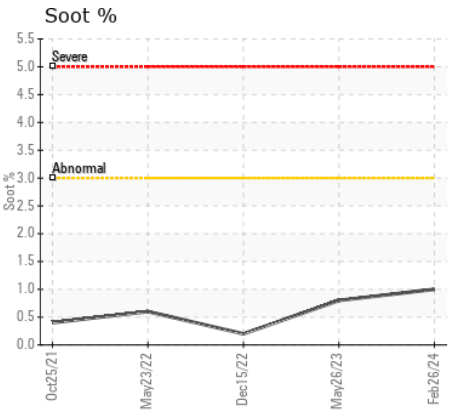
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0084000 **Received** : 20 Jun 2024
Lab Number : 02643079 **Tested** : 20 Jun 2024
Unique Number : 5800618 **Diagnosed** : 20 Jun 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KV40, VI)

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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