MOB I LUBE 360 OIL DIAGNOSTICS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
727009
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

WEAR

Aluminum ppm levels are noted. All other component wear rates are normal.

CONTAMINATION

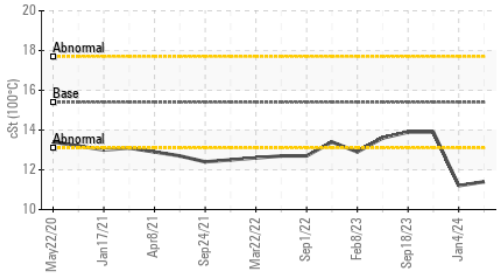
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. No other contaminants were detected in the oil.

FLUID CONDITION

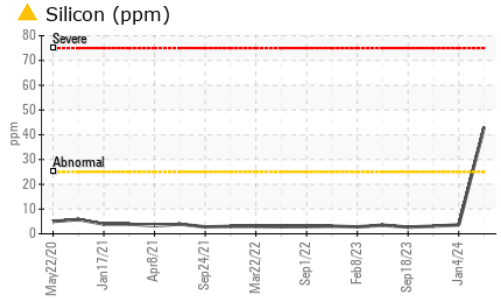
Viscosity of sample indicates oil is within SAE 30 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The oil is no longer serviceable due to the presence of contaminants.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**GFL0097314**	GFL0097333	GFL0053576
Sample Date		Client Info		**11 Jan 2024**	04 Jan 2024	29 Sep 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**17390**	17354	0
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Filter Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>120	**58**	5	5
Chromium	ppm	ASTM D5185(m)	>20	**2**	0	0
Nickel	ppm	ASTM D5185(m)	>5	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	0
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	**24**	2	1
Lead	ppm	ASTM D5185(m)	>40	**5**	<1	<1
Copper	ppm	ASTM D5185(m)	>330	**20**	1	<1
Tin	ppm	ASTM D5185(m)	>15	**3**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Silicon	ppm	ASTM D5185(m)	>25	▲ **43**	4	3
Potassium	ppm	ASTM D5185(m)	>20	**70**	1	4
Fuel	%	ASTM D7593*	>3.0	**1.1**	2.3	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG
Soot %	%	ASTM D7844*	>4	**0.1**	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	**9.8**	9.1	8.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.6**	22.3	21.7
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185(m)		**6**	2	5
Boron	ppm	ASTM D5185(m)	0	**33**	30	97
Barium	ppm	ASTM D5185(m)	0	**5**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**13**	40	2
Manganese	ppm	ASTM D5185(m)	0	**6**	0	0
Magnesium	ppm	ASTM D5185(m)	1010	**731**	489	27
Calcium	ppm	ASTM D5185(m)	1070	**1298**	1687	2171
Phosphorus	ppm	ASTM D5185(m)	1150	**693**	706	911
Zinc	ppm	ASTM D5185(m)	1270	**761**	852	1136
Sulfur	ppm	ASTM D5185(m)	2060	**2411**	2046	2724
Oxidation	Abs/.1mm	ASTM D7414*	>25	**19.1**	21.6	16.9
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	▲ **11.4**	▲ 11.2	13.9

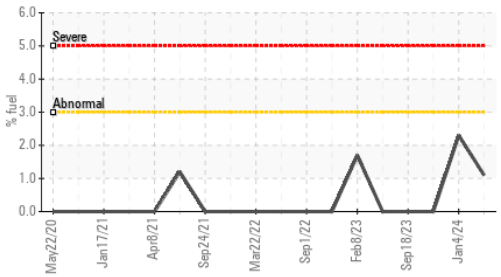
Viscosity @ 100°C



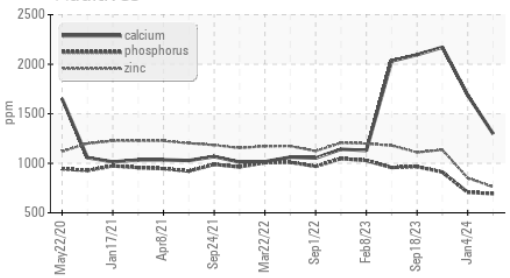
Silicon (ppm)



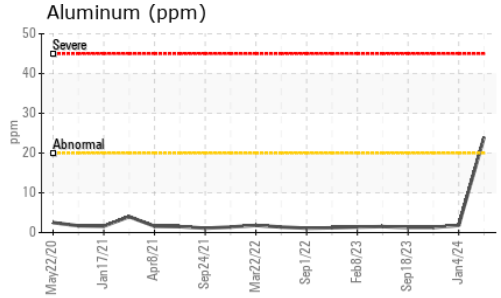
Fuel Dilution



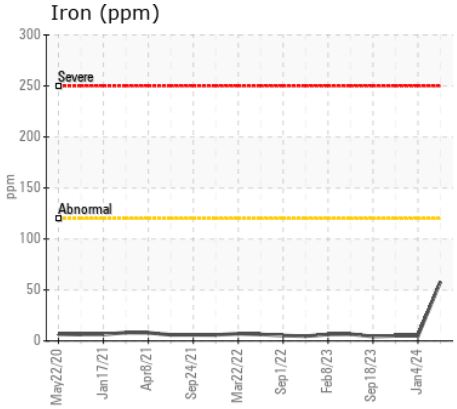
Additives



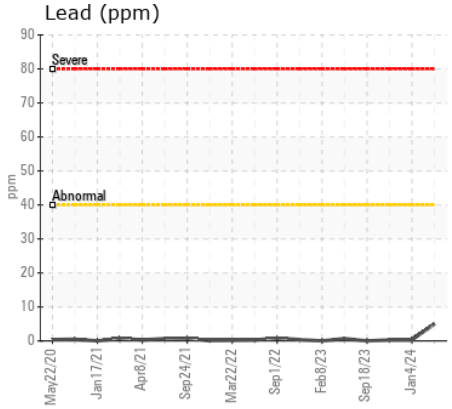
Aluminum (ppm)



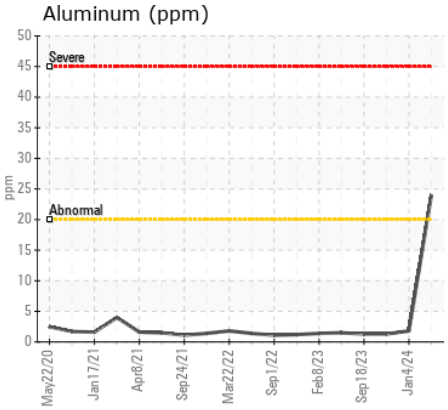
Iron (ppm)



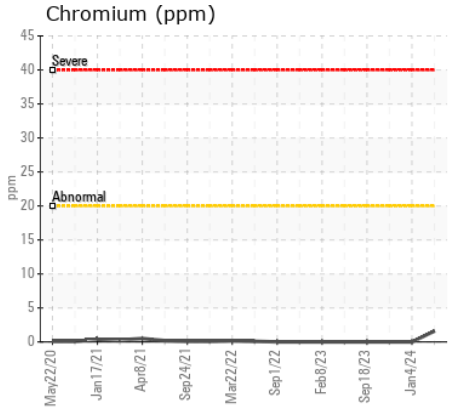
Lead (ppm)



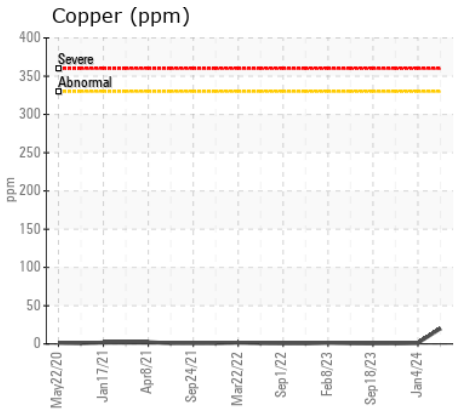
Aluminum (ppm)



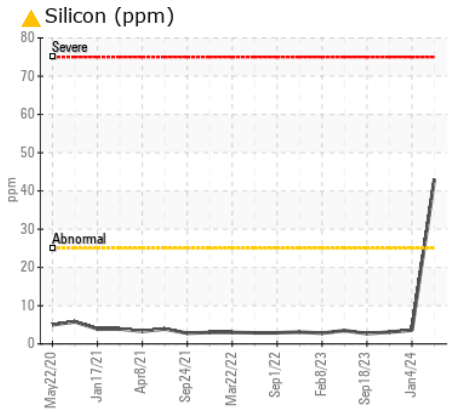
Chromium (ppm)



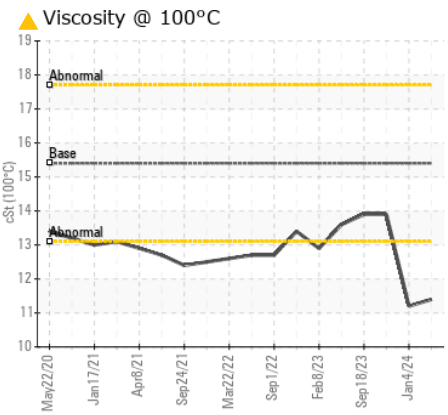
Copper (ppm)



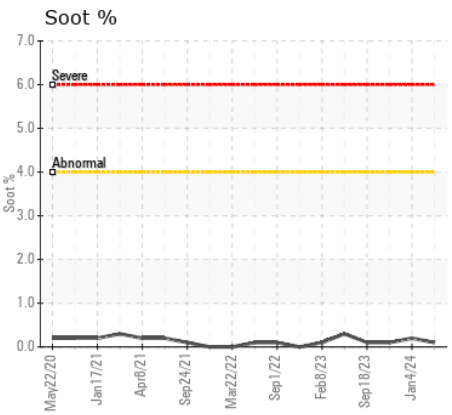
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0097314
Lab Number : 02608372
Unique Number : 5709458
Test Package : MOB 1 (Additional Tests: FUELDILUTION, PercentFuel)

Recieved : 12 Jan 2024
Diagnosed : 15 Jan 2024
Diagnostician : Kevin Marson

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.

GFL Environmental - 246 - Windsor
2700 Deziel Dr
Windsor, ON
CA N8W 5H8
Contact: Dave Varga
dvarga@gflenv.com
T: (519)944-8009
F: