



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
QC Engine
 Machine Id
QC230725MOB2
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (--- GAL)

RECOMMENDATION

We advise that you check for the source of water entry. 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. We recommend an early resample to monitor this condition. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0902245	WC0902241	WC0902240
Sample Date		Client Info		20 Feb 2024	16 Feb 2024	15 Feb 2024
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	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	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	20	20	20
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		2	2	2
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	5	5	5
Lead	ppm	ASTM D5185(m)	>40	2	2	1
Copper	ppm	ASTM D5185(m)	>330	9	9	9
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

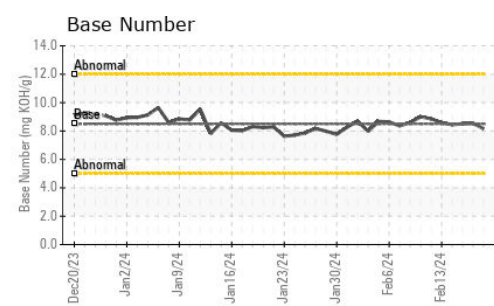
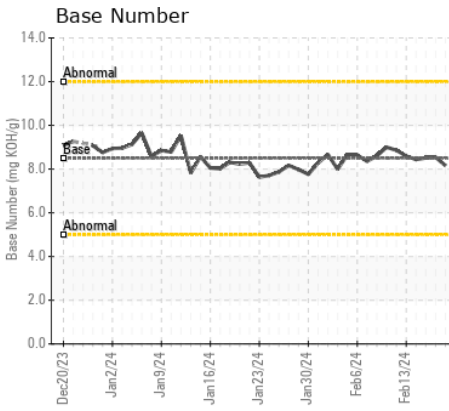
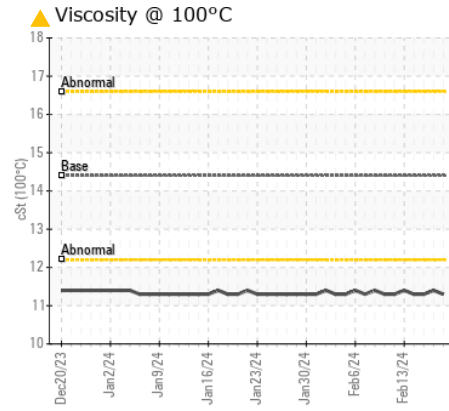
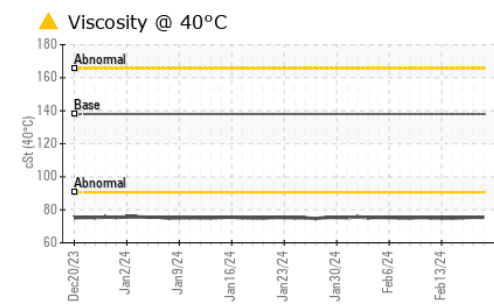
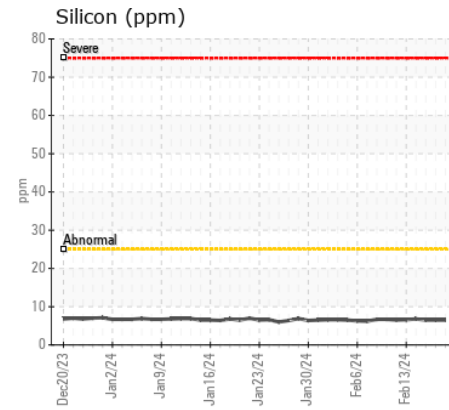
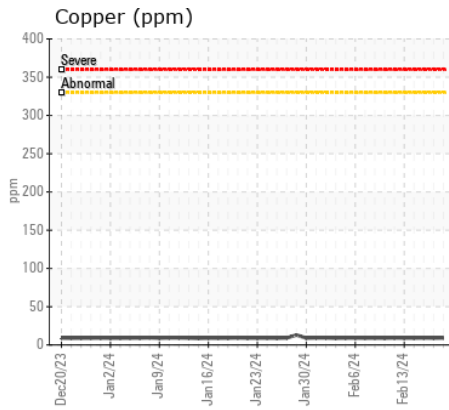
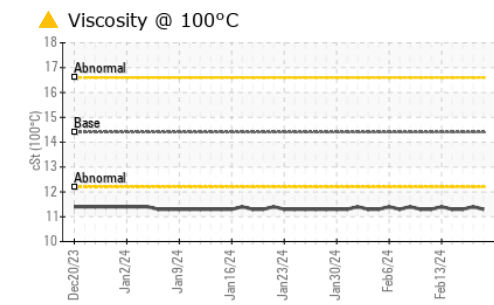
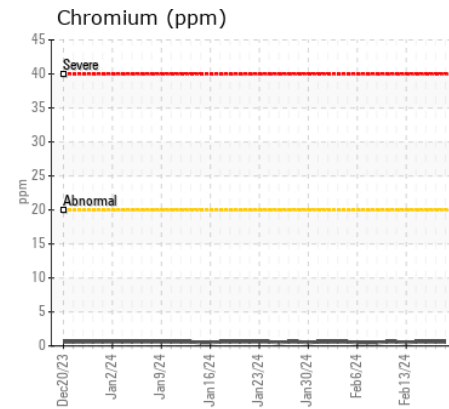
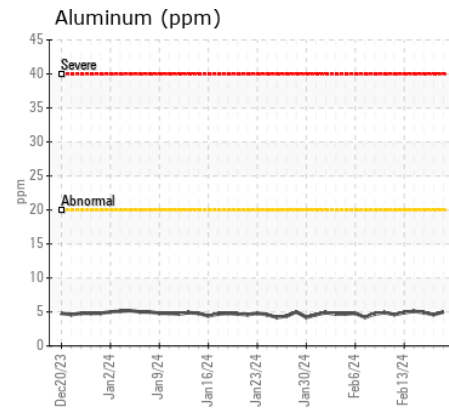
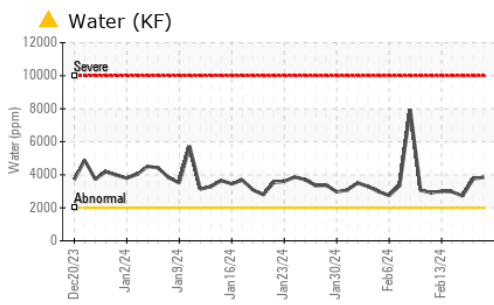
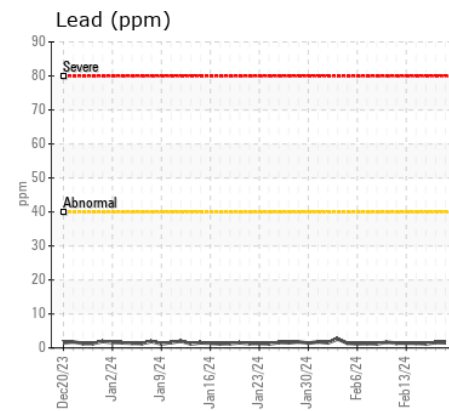
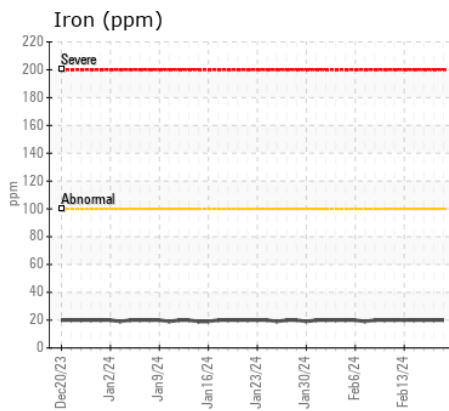
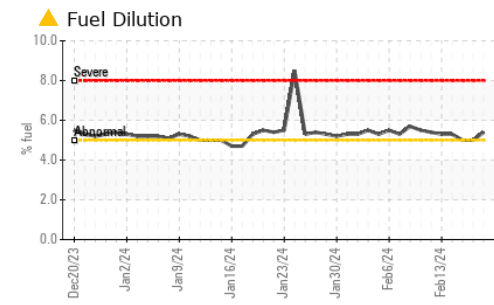
There is a moderate amount of fuel present in the oil. There is a light concentration of water present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	6	6	6
Potassium	ppm	ASTM D5185(m)	>20	▲ 15	▲ 16	▲ 15
Fuel	%	ASTM D7593*	>5	▲ 5.4	▲ 5	▲ 5
Water	%	ASTM D6304*	>0.2	▲ 0.385	▲ 0.374	▲ 0.272
ppm Water	ppm	ASTM D6304*	>2000	▲ 3854	▲ 3744	▲ 2720
Glycol	%	ASTM D7922*		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.3	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	10.1	10.2	10.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1	21.0	21.0
Emulsified Water	scalar	Visual*	>0.2	▲ .2%	.2%	▲ .5%

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within SAE 10W30 range, advise investigate. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)	>216	▲ 64	▲ 67	▲ 63
Boron	ppm	ASTM D5185(m)	250	30	29	30
Barium	ppm	ASTM D5185(m)	10	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	100	47	47	48
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)	450	614	614	626
Calcium	ppm	ASTM D5185(m)	3000	1503	1493	1508
Phosphorus	ppm	ASTM D5185(m)	1150	880	870	886
Zinc	ppm	ASTM D5185(m)	1350	1008	1009	1014
Sulfur	ppm	ASTM D5185(m)	4250	2803	2736	2781
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.5	16.5	16.3
Base Number (BN)	mg KOH/g	ASTM D2896*	8.5	8.16	8.54	8.51
Visc @ 40°C	cSt	ASTM D7279(m)	138	▲ 75.4	▲ 75.5	▲ 75.2
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 11.3	▲ 11.4	▲ 11.3
Viscosity Index (VI)	Scale	ASTM D2270*	102	141	143	141



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0902245 **Received** : 20 Feb 2024
Lab Number : 02616598 **Tested** : 22 Feb 2024
Unique Number : 5733708 **Diagnosed** : 22 Feb 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: Glycol, KF, KV40, PercentFuel, VI)

WearCheck Quality Control Sample Results

Burlington, ON
 CA
 Contact: Dorian Anderson
 dorian.anderson@wearcheck.com
 T: (289)291-4652
 F: (905)569-8605

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.