



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
2303
 Component
Diesel Engine
 Fluid
TOTAL RUBIA OPTIMA 5W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0766409	---	---
Sample Date		Client Info		04 Mar 2024	---	---
Machine Age	hrs	Client Info		825	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>100	63	---	---
Chromium	ppm	ASTM D5185(m)	>20	2	---	---
Nickel	ppm	ASTM D5185(m)	>4	6	---	---
Titanium	ppm	ASTM D5185(m)		0	---	---
Silver	ppm	ASTM D5185(m)	>3	0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	23	---	---
Lead	ppm	ASTM D5185(m)	>40	3	---	---
Copper	ppm	ASTM D5185(m)	>330	136	---	---
Tin	ppm	ASTM D5185(m)	>15	4	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---

CONTAMINATION

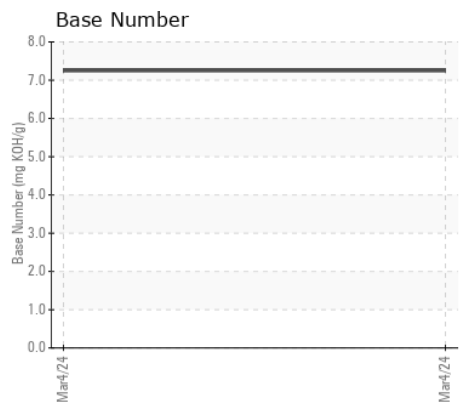
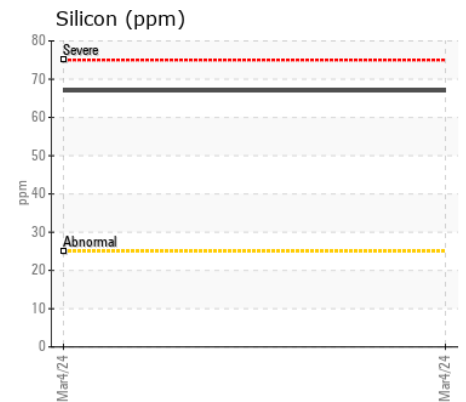
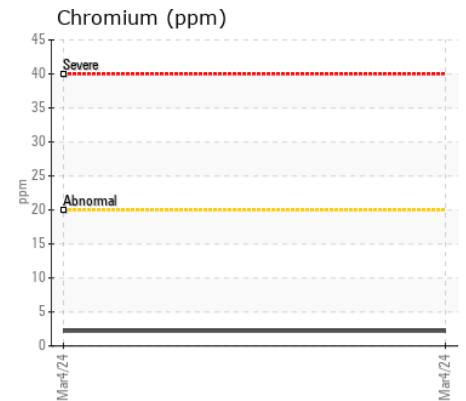
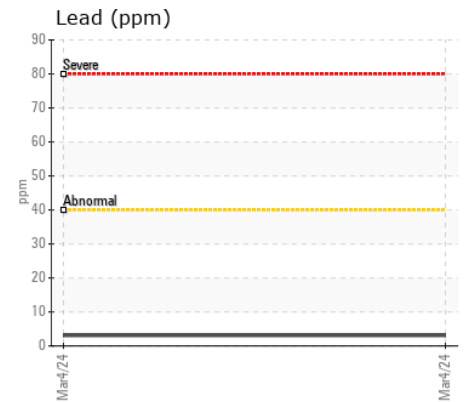
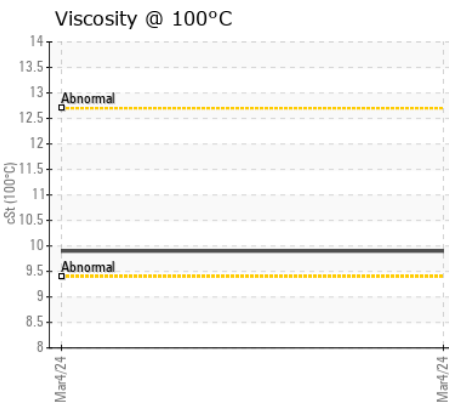
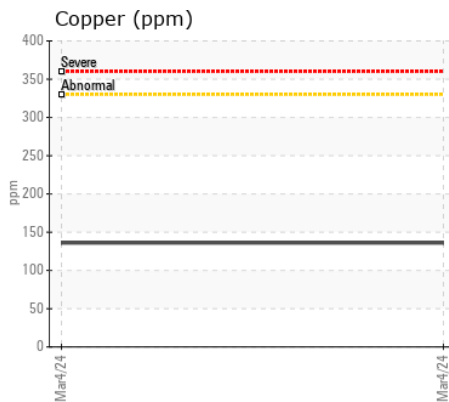
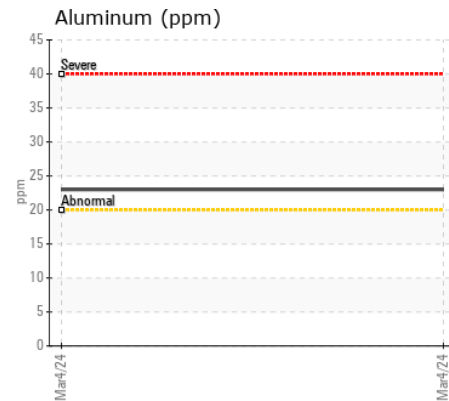
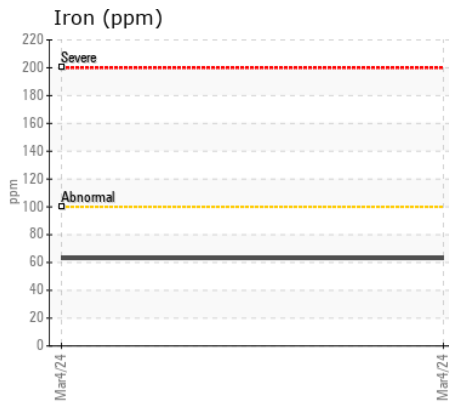
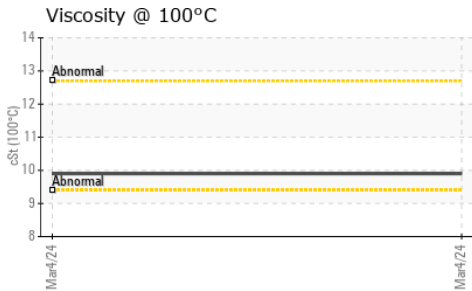
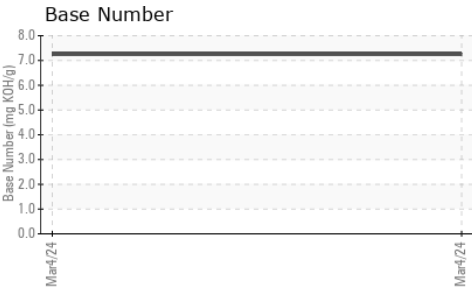
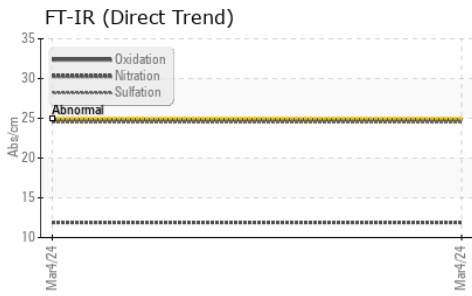
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	67	---	---
Potassium	ppm	ASTM D5185(m)	>20	55	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	ASTM D7844*	>3	0.2	---	---
Nitration	Abs/cm	ASTM D7624*	>20	11.9	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.5	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185(m)		6	---	---
Boron	ppm	ASTM D5185(m)		166	---	---
Barium	ppm	ASTM D5185(m)		<1	---	---
Molybdenum	ppm	ASTM D5185(m)		112	---	---
Manganese	ppm	ASTM D5185(m)		4	---	---
Magnesium	ppm	ASTM D5185(m)		630	---	---
Calcium	ppm	ASTM D5185(m)		1458	---	---
Phosphorus	ppm	ASTM D5185(m)		665	---	---
Zinc	ppm	ASTM D5185(m)		778	---	---
Sulfur	ppm	ASTM D5185(m)		1859	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	24.8	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*		7.25	---	---
Visc @ 100°C	cSt	ASTM D7279(m)		9.9	---	---



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0766409
Lab Number : 02630540
Unique Number : 5763672
Test Package : MOB 2
Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Kevin Marson

BRETON PETROLEUM LTD.
 3 MacLean Court
 PORT HAWKESBURY, NS
 CA B9A 3K3
 Contact: Carol Macleod
 cmacleod@bretonpetroleum.com
 T: (902)625-2900
 F: (902)625-3852

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.