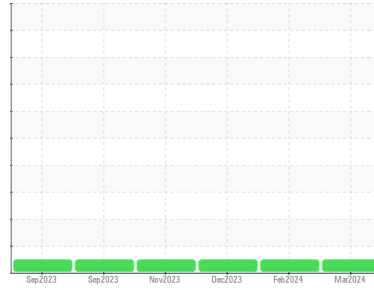




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
BD SHOP
 Machine Id
200280
 Component
Diesel Engine
 Fluid
TEST OIL GOLD 4 (40 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All 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. There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0888919	WC0888897	WC0864702
Sample Date	Client Info		22 Mar 2024	08 Feb 2024	13 Dec 2023
Machine Age	kms	Client Info	324282	103871	90495
Oil Age	kms	Client Info	63065	41396	28020
Oil Changed	Client Info		Not Chngd	Not Chngd	N/A
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	<1.0	<1.0
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	0.0	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>100	45	37	27
Chromium	ppm	ASTM D5185(m)	>20	2	2	2
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	14	33	25
Lead	ppm	ASTM D5185(m)	>40	0	1	<1
Copper	ppm	ASTM D5185(m)	>330	34	25	21
Tin	ppm	ASTM D5185(m)	>15	0	<1	0
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	1	0	3	4
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	65	59	60
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	1020	920	925
Calcium	ppm	ASTM D5185(m)	980	1138	1150	1127
Phosphorus	ppm	ASTM D5185(m)	1100	941	997	985
Zinc	ppm	ASTM D5185(m)	1150	1221	1164	1175
Sulfur	ppm	ASTM D5185(m)	2600	2018	2575	2479
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

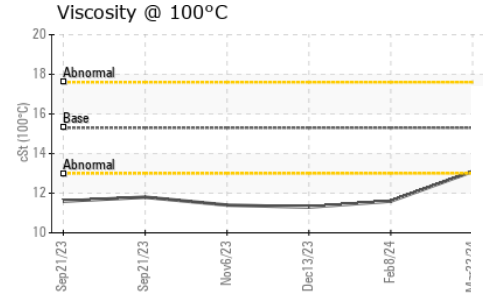
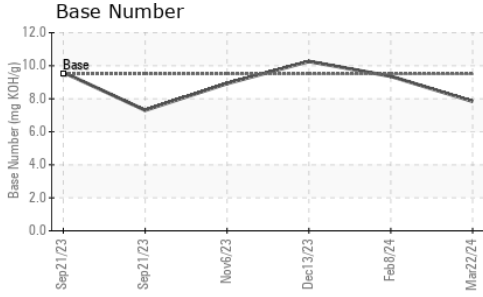
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	4	7	6
Sodium	ppm	ASTM D5185(m)		2	2	2
Potassium	ppm	ASTM D5185(m)	>20	25	29	30

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	1.2	0.5	0.3
Nitration	Abs/cm	ASTM D7624*	>20	11.2	7.5	6.8
Nitration(Diff)	Abs/cm	ASTM E2412*		16.2	7.1	---
Sulfation	Abs./1mm	ASTM D7415*	>30	23.2	20.2	19.5
Sulfation(Diff)	Abs/cm	ASTM E2412*		8.7	3	---



OIL ANALYSIS REPORT

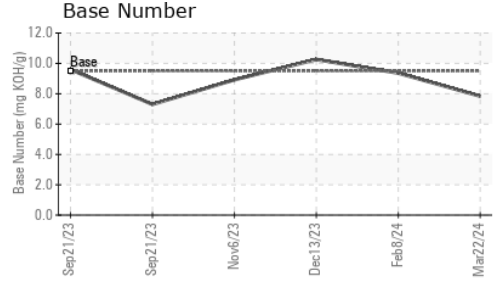
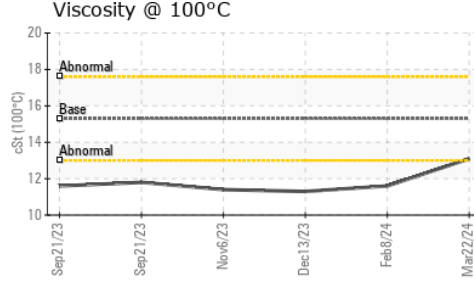
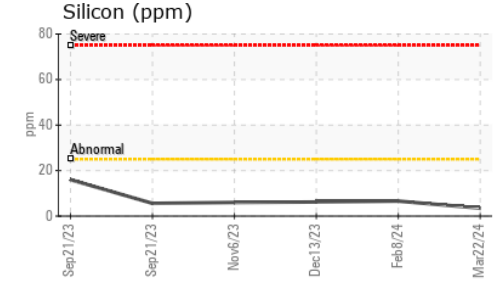
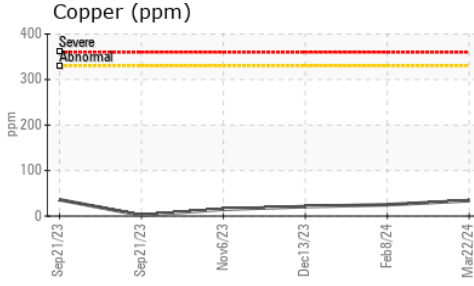
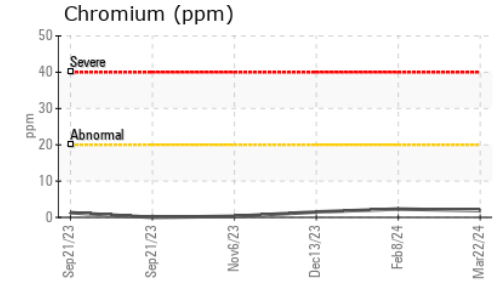
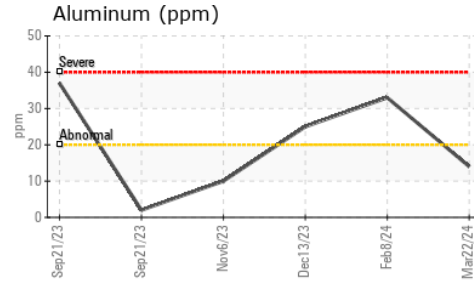
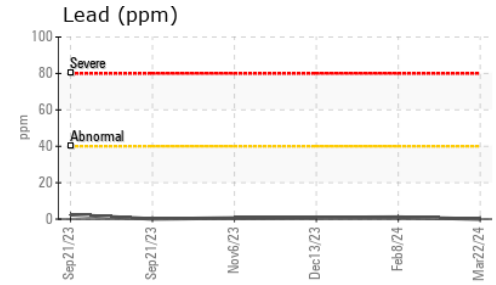
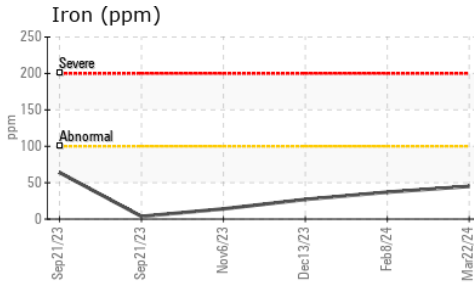


FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	19.3	15.3	15.0
Oxidation(Diff)	Abs/cm	ASTM E2412*		14.7	8.5	---
Base Number (BN)	mg KOH/g	ASTM D2896*	9.5	7.84	9.36	10.26

VISUAL	method	limit/base	current	history1	history2	
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D7279(m)	15.3	13.1	11.6	11.3

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0888919 **Received** : 25 Mar 2024
Lab Number : **02624152** **Tested** : 25 Mar 2024
Unique Number : 5749271 **Diagnosed** : 25 Mar 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: FT-IR(Diff))

WFR Technical Services
 5389 Riverside Drive
 Burlington, ON
 CA L7L 3Y1
 Contact: William Ridley
 wfr.technical.services@gmail.com

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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F: