MOB

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Locomotives
Machine Id
2003
Component
Railway diesel
Fluid
RAILWAY ENGINE OIL SAE 40 (243 GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 3 test kits, this testkit includes Analytical Ferrography which provides a detailed morphological analysis of wear particles present in the fluid. this testkit includes BN to determine the suitability of the oil for continued use.

WEAR

Component wear rates appear to be normal (unconfirmed).

CONTAMINATION

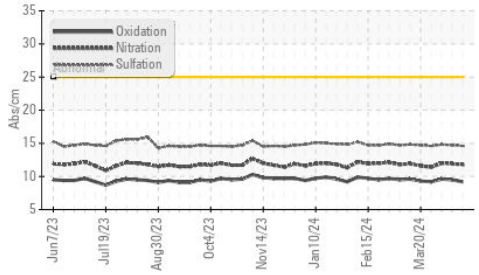
There is no indication of any contamination in the oil.

FLUID CONDITION

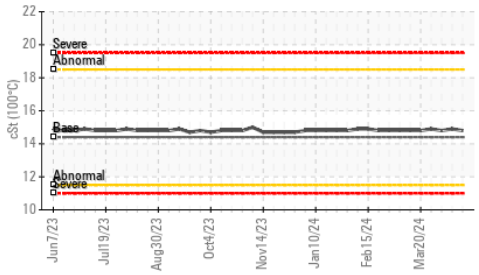
The condition of the oil is acceptable for the time in service (unconfirmed).

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0891379	WC0891371	WC0891378
Sample Date		Client Info		15 Apr 2024	09 Apr 2024	03 Apr 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		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>100	15	16	16
Chromium	ppm	ASTM D5185(m)	>15	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>5	0	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>10	3	2	2
Lead	ppm	ASTM D5185(m)	>75	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>90	7	8	8
Tin	ppm	ASTM D5185(m)	>30	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon	ppm	ASTM D5185(m)	>17	3	3	3
Potassium	ppm	ASTM D5185(m)	>20	1	<1	1
Fuel		WC Method	>4	<1.0	<1.0	<1.0
Water		WC Method	>0.20	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*		0.2	0.2	0.2
Nitration	Abs/cm	ASTM D7624*	>20	11.8	11.9	12.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	14.6	14.7	14.8
Emulsified Water	scalar	Visual*	>0.20	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		3	3	3
Boron	ppm	ASTM D5185(m)	10	<1	<1	<1
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	25	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	20	16	22	17
Calcium	ppm	ASTM D5185(m)	4500	4558	4640	4785
Phosphorus	ppm	ASTM D5185(m)	10	3	9	3
Zinc	ppm	ASTM D5185(m)	10	3	10	4
Sulfur	ppm	ASTM D5185(m)	5000	2894	2938	3030
Oxidation	Abs/.1mm	ASTM D7414*	>25	9.2	9.5	9.6
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	14.8	14.9	14.8

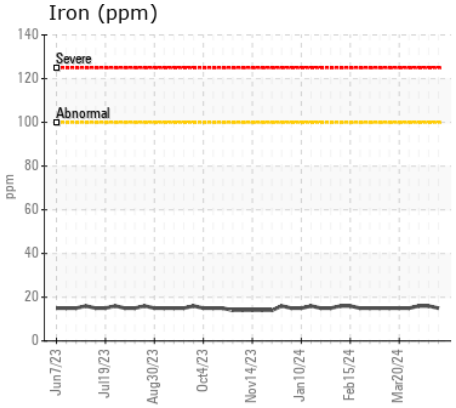
FT-IR (Direct Trend)



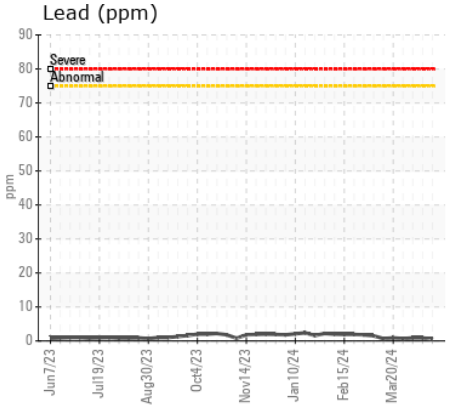
Viscosity @ 100°C



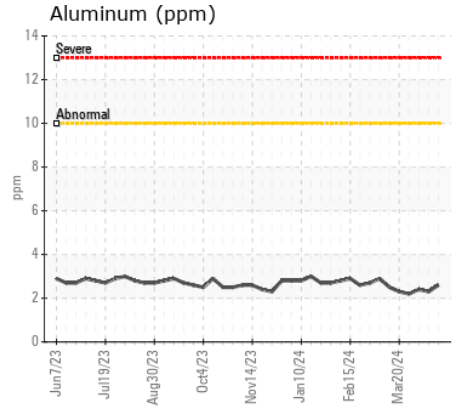
Iron (ppm)



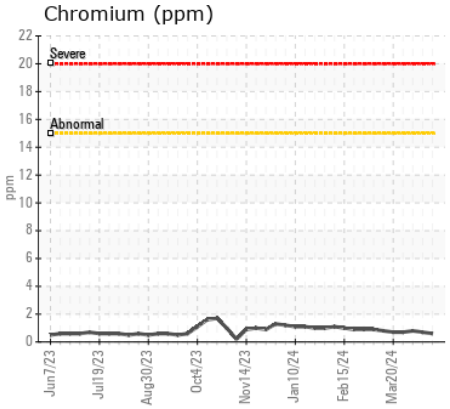
Lead (ppm)



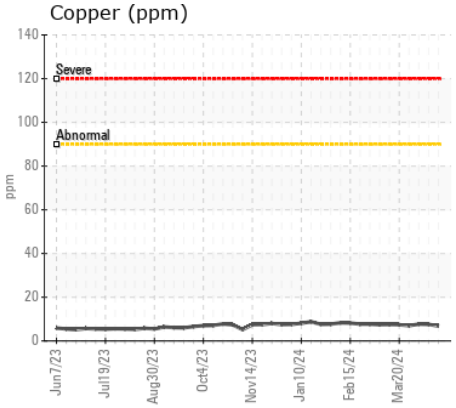
Aluminum (ppm)



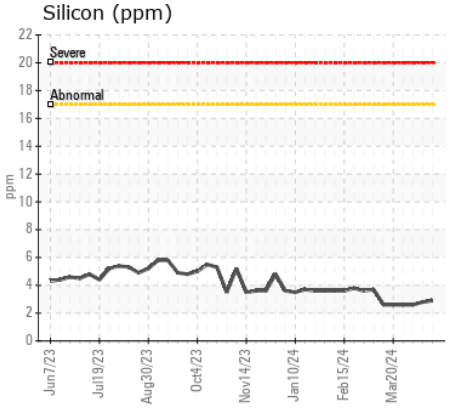
Chromium (ppm)



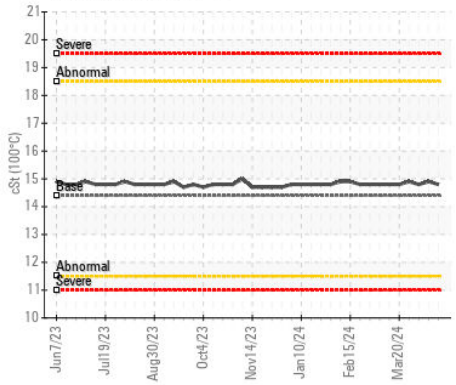
Copper (ppm)



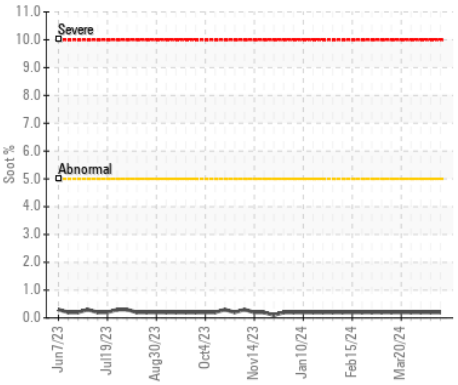
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0891379
Lab Number : 02632544
Unique Number : 5773697
Test Package : MOB 1

Received : 01 May 2024
Tested : 01 May 2024
Diagnosed : 01 May 2024 - Wes Davis

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.

Vale - Transportation (Mobile Equipment)
Transportation Department, (Services - Mobile Equipment)
COPPER CLIFF, ON
CA P0M 1N0
Contact: Richard Rochon
richard.rochon@vale.com
T: (705)682-6014
F: