

Machine Id
WESTERN STAR 134
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (42 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0081956	PC0071670	PC0065596
Sample Date		Client Info		23 Nov 2023	30 May 2023	24 Nov 2022
Machine Age	kms	Client Info		313448	277574	233393
Oil Age	kms	Client Info		35874	44181	31666
Filter Age	kms	Client Info		35874	44181	31666
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	15	18	11
Chromium	ppm	ASTM D5185(m)	>20	<1	1	1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	0
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	6	8	6
Lead	ppm	ASTM D5185(m)	>40	<1	0	<1
Copper	ppm	ASTM D5185(m)	>330	6	7	7
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

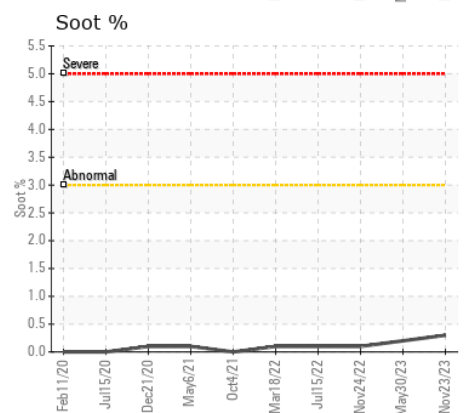
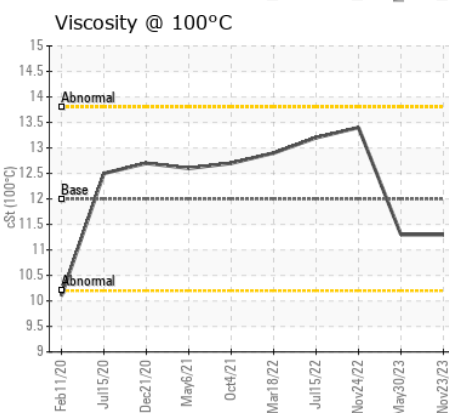
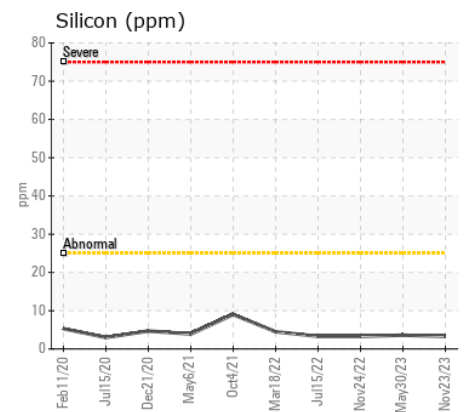
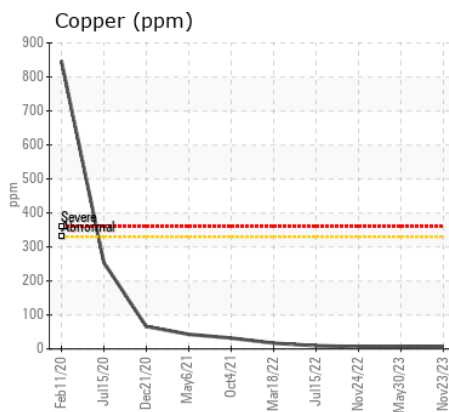
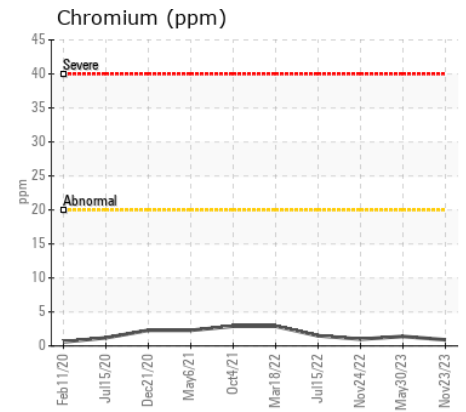
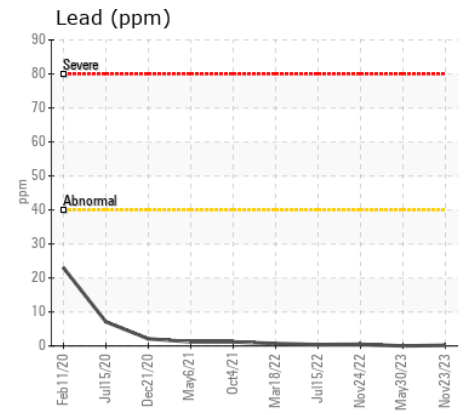
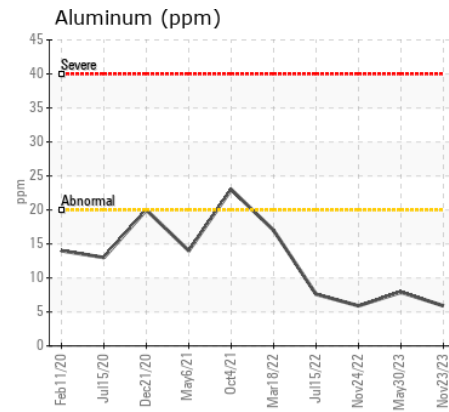
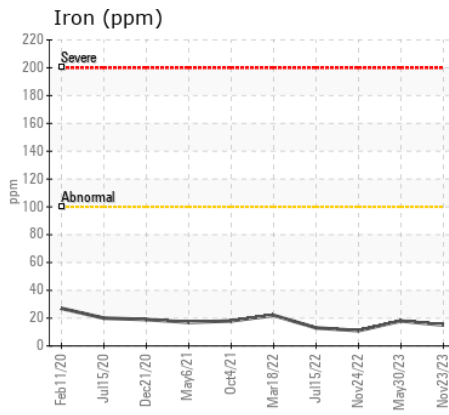
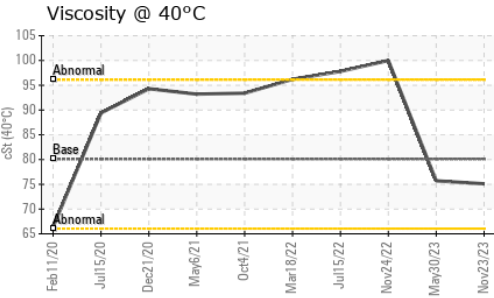
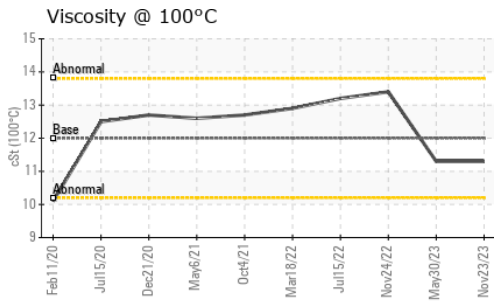
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	3	4	3
Potassium	ppm	ASTM D5185(m)	>20	8	12	8
Fuel		WC Method	>5	<1.0	0.5	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.3	0.2	0.1
Nitration	Abs/cm	ASTM D7624*	>20	9.4	9.1	9.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.1	20.7	21.6
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185(m)		1	2	3
Boron	ppm	ASTM D5185(m)	2	<1	2	2
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	50	60	61	60
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	987	972	982
Calcium	ppm	ASTM D5185(m)	1050	1087	1149	1147
Phosphorus	ppm	ASTM D5185(m)	995	1008	1093	1059
Zinc	ppm	ASTM D5185(m)	1180	1228	1270	1233
Sulfur	ppm	ASTM D5185(m)	2600	2466	2432	2448
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.3	17.9	18.2
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	75.1	75.7	100
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.3	11.3	13.4
Viscosity Index (VI)	Scale	ASTM D2270*	144	141	140	133



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 ROSS TOWING & TRANSPORTATION SERVICES INC
Sample No. : PC0081956 **Received** : 04 Jan 2024 995 POND MILLS RD
Lab Number : 02606430 **Diagnosed** : 05 Jan 2024 LONDON, ON
Unique Number : 5707516 **Diagnostician** : Wes Davis CA N6N 1C3
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual) Contact: Dave Ross
 To discuss this sample report, contact Customer Service at 1-800-268-2131. chris@rosstowing.ca
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (519)685-1212
 Validity of results and interpretation are based on the sample and information as supplied. F: (519)668-5790