

Machine Id
WESTERN STAR 19

Component
Diesel Engine

Fluid
PETRO CANADA DURON SAE 10W30 (--- GAL)

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PC0073149	---	---
Sample Date	Client Info			13 Apr 2023	---	---
Machine Age	kms	Client Info		336229	---	---
Oil Age	kms	Client Info		67998	---	---
Oil Changed	Client Info			Changed	---	---
Sample Status				NORMAL	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method		>3.0	<1.0	---	---
Glycol	WC Method			NEG	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>200	23	---	---
Chromium	ppm	ASTM D5185(m)	>20	2	---	---
Nickel	ppm	ASTM D5185(m)	>2	<1	---	---
Titanium	ppm	ASTM D5185(m)	>2	<1	---	---
Silver	ppm	ASTM D5185(m)	>2	<1	---	---
Aluminum	ppm	ASTM D5185(m)	>30	14	---	---
Lead	ppm	ASTM D5185(m)	>30	<1	---	---
Copper	ppm	ASTM D5185(m)	>30	15	---	---
Tin	ppm	ASTM D5185(m)	>15	<1	---	---
Antimony	ppm	ASTM D5185(m)		0	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
Beryllium	ppm	ASTM D5185(m)		0	---	---
Cadmium	ppm	ASTM D5185(m)		0	---	---

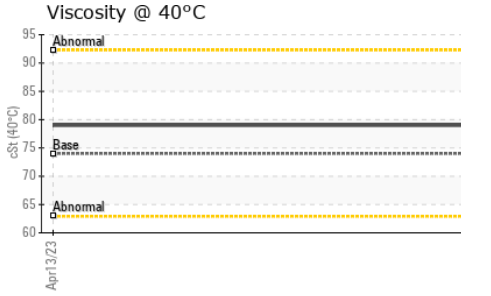
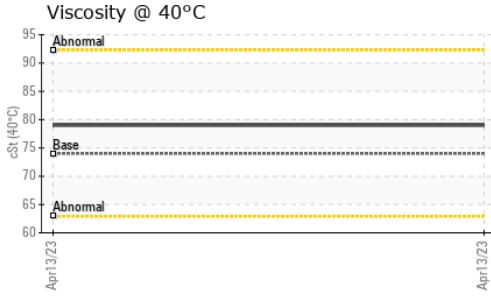
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	8	---	---
Barium	ppm	ASTM D5185(m)	1	0	---	---
Molybdenum	ppm	ASTM D5185(m)	1	56	---	---
Manganese	ppm	ASTM D5185(m)	1	<1	---	---
Magnesium	ppm	ASTM D5185(m)	10	240	---	---
Calcium	ppm	ASTM D5185(m)	2942	2268	---	---
Phosphorus	ppm	ASTM D5185(m)	1102	1097	---	---
Zinc	ppm	ASTM D5185(m)	1351	1280	---	---
Sulfur	ppm	ASTM D5185(m)	3903	2782	---	---
Lithium	ppm	ASTM D5185(m)		<1	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>30	4	---	---
Sodium	ppm	ASTM D5185(m)		3	---	---
Potassium	ppm	ASTM D5185(m)	>20	29	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.5	---	---
Nitration	Abs/cm	ASTM D7624*	>20	11.2	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.9	---	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.0	---	---

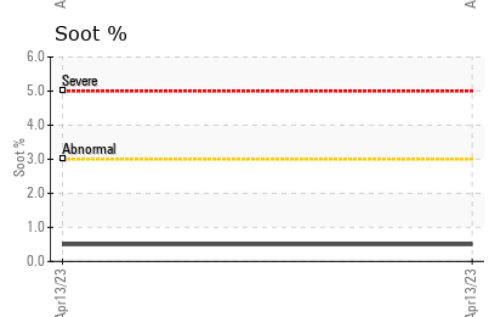
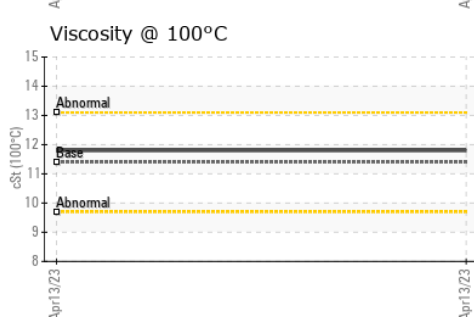
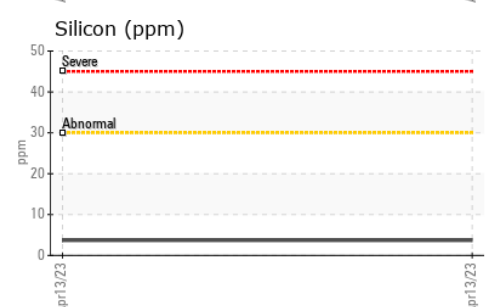
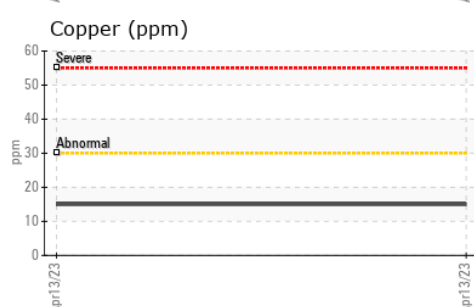
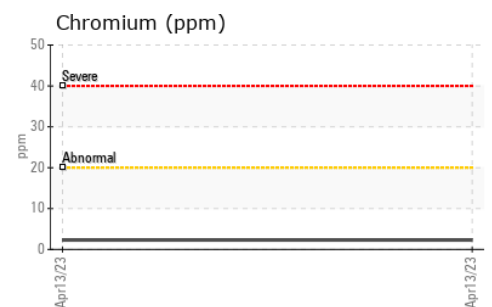
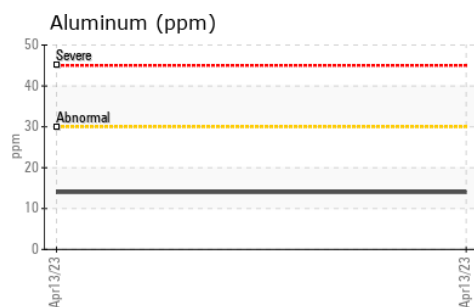
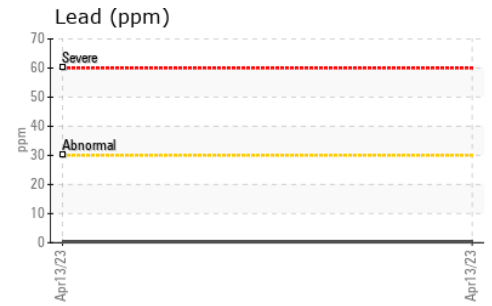
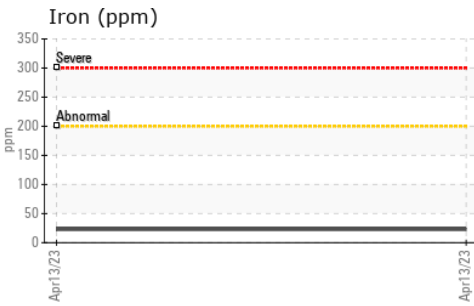
OIL ANALYSIS REPORT



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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	74.0	79.0	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.4	11.8	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	143	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0073149 **Received** : 31 Jul 2023
Lab Number : **02573150** **Diagnosed** : 31 Jul 2023
Unique Number : 5618201 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: KV40, VI)

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*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.*