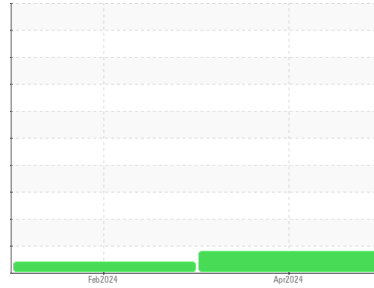




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
WESTERN STAR DUMP 2
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination

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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0878813	WC0906044	---
Sample Date	Client Info			25 Apr 2024	05 Feb 2024	---
Machine Age	hrs	Client Info		33100	16569	---
Oil Age	hrs	Client Info		15000	16569	---
Oil Changed	Client Info			Changed	Changed	---
Sample Status				ABNORMAL	ATTENTION	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	0.3	---
Water	WC Method	>0.2		NEG	NEG	---
Glycol	WC Method			NEG	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	25	48	---
Chromium	ppm	ASTM D5185m	>20	3	2	---
Nickel	ppm	ASTM D5185m	>4	0	<1	---
Titanium	ppm	ASTM D5185m		0	0	---
Silver	ppm	ASTM D5185m	>3	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	18	42	---
Lead	ppm	ASTM D5185m	>40	0	6	---
Copper	ppm	ASTM D5185m	>330	▲ 564	270	---
Tin	ppm	ASTM D5185m	>15	1	2	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		9	39	---
Barium	ppm	ASTM D5185m		0	<1	---
Molybdenum	ppm	ASTM D5185m		62	40	---
Manganese	ppm	ASTM D5185m		2	4	---
Magnesium	ppm	ASTM D5185m		940	558	---
Calcium	ppm	ASTM D5185m		1257	1812	---
Phosphorus	ppm	ASTM D5185m		1044	791	---
Zinc	ppm	ASTM D5185m		1240	911	---
Sulfur	ppm	ASTM D5185m		3129	2385	---

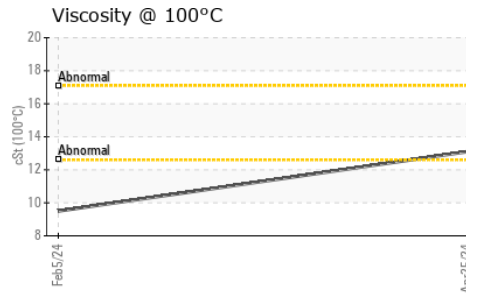
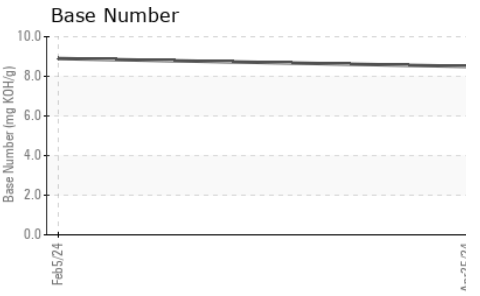
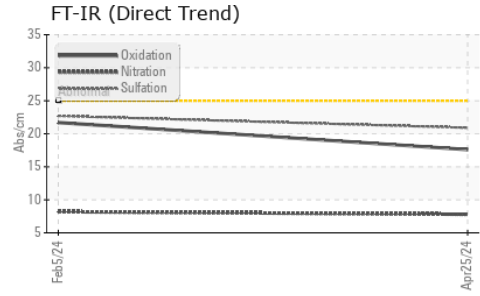
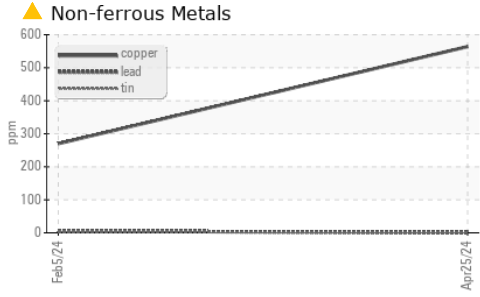
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	7	8	---
Sodium	ppm	ASTM D5185m		2	6	---
Potassium	ppm	ASTM D5185m	>20	49	127	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	7.8	8.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	22.7	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.6	21.7	---
Base Number (BN)	mg KOH/g	ASTM D2896		8.5	8.9	---



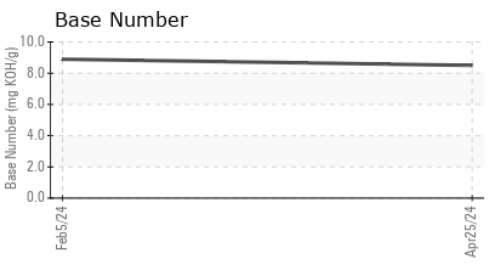
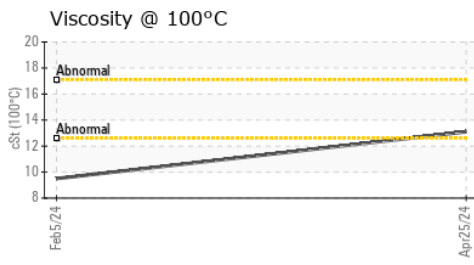
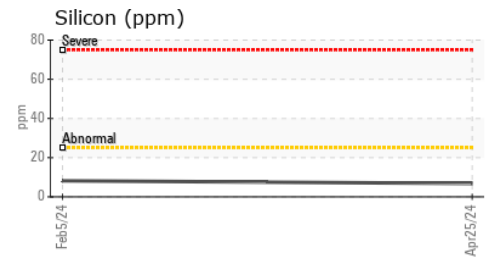
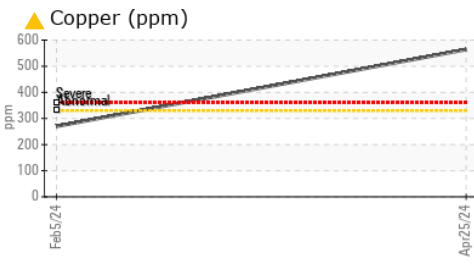
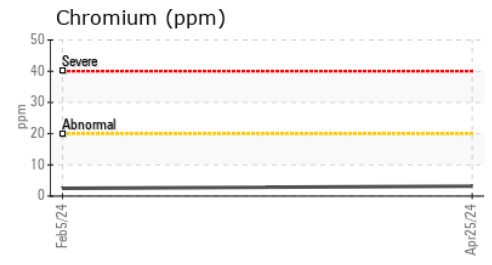
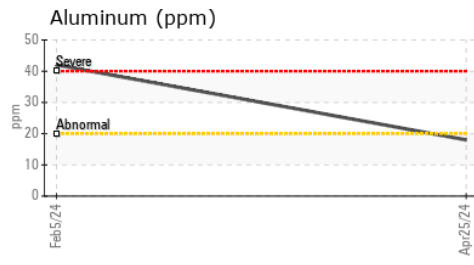
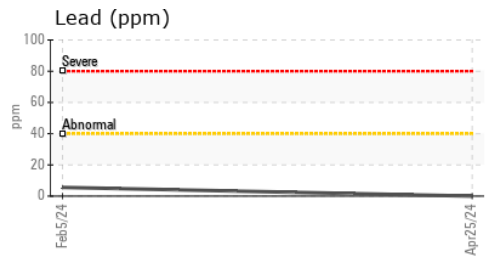
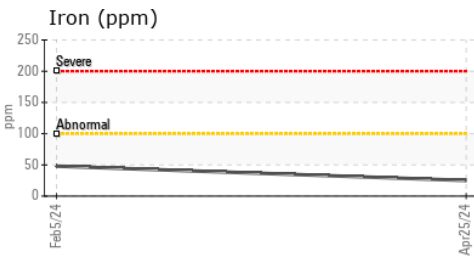
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
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	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.1	9.5	---

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0878813 **Received** : 17 May 2024
Lab Number : 06183786 **Tested** : 22 May 2024
Unique Number : 11035112 **Diagnosed** : 22 May 2024 - Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

C.L. BENTON & SONS INC
 706 38TH AVE N
 MYRTLE BEACH, SC
 US 29577
 Contact: JAMIE HUCKS
 shop@clbenton.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)