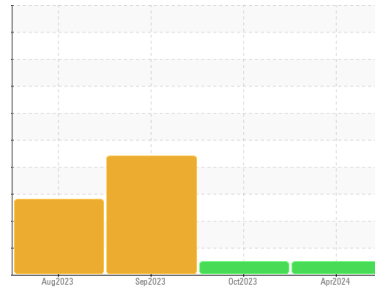




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
VAC PUMP 332
 Component
Diesel Engine
 Fluid
PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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 suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0917245	WC0868166	WC0613728
Sample Date	Client Info		06 Apr 2024	28 Oct 2023	16 Sep 2023
Machine Age	hrs	Client Info	2920	2657	2415
Oil Age	hrs	Client Info	263	242	560
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	SEVERE

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	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	76	11	11
Chromium	ppm	ASTM D5185m >20	7	<1	<1
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	0	0	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	16	6	8
Lead	ppm	ASTM D5185m >40	0	0	0
Copper	ppm	ASTM D5185m >330	4	0	<1
Tin	ppm	ASTM D5185m >15	<1	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	9	9	4
Barium	ppm	ASTM D5185m	0	0	0
Molybdenum	ppm	ASTM D5185m	61	58	55
Manganese	ppm	ASTM D5185m	1	0	<1
Magnesium	ppm	ASTM D5185m	994	908	988
Calcium	ppm	ASTM D5185m	1127	1018	1080
Phosphorus	ppm	ASTM D5185m	1057	1005	1031
Zinc	ppm	ASTM D5185m	1301	1233	1282
Sulfur	ppm	ASTM D5185m	3327	2894	3219

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	12	5	5
Sodium	ppm	ASTM D5185m	1	0	1
Potassium	ppm	ASTM D5185m >20	<1	0	2

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.2	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	9.0	10.3	9.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.7	20.1	19.6

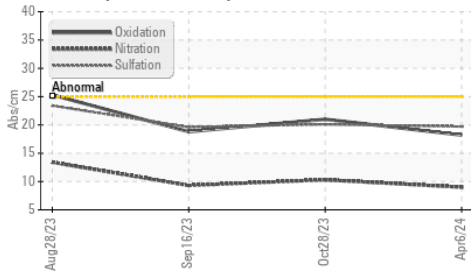
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.2	21.0	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.0	8.8	9.68

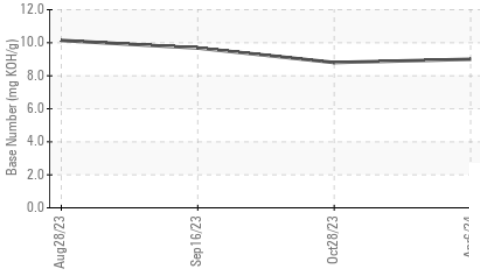


OIL ANALYSIS REPORT

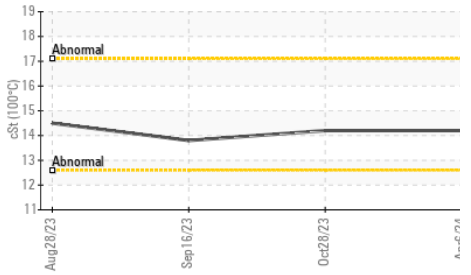
FT-IR (Direct Trend)



Base Number



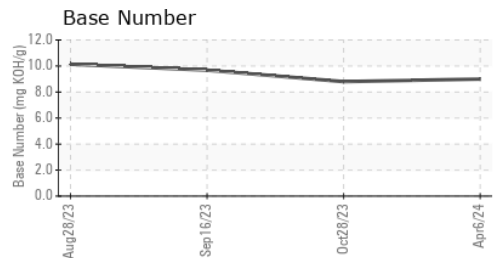
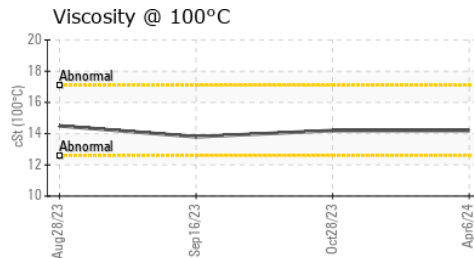
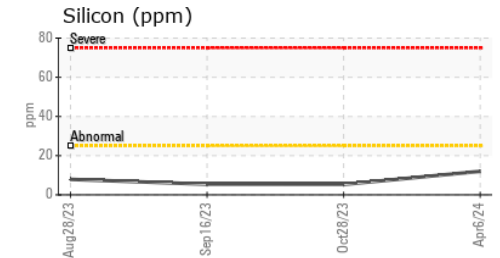
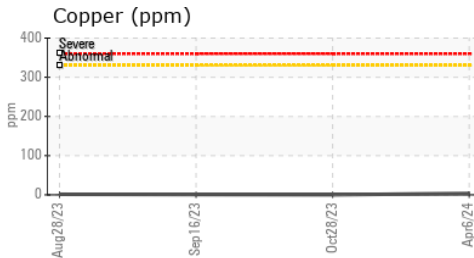
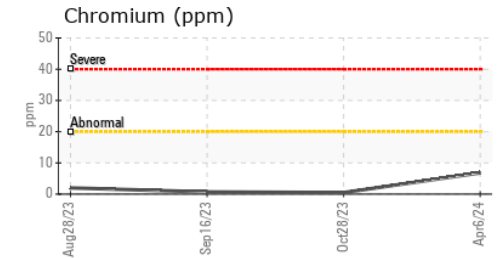
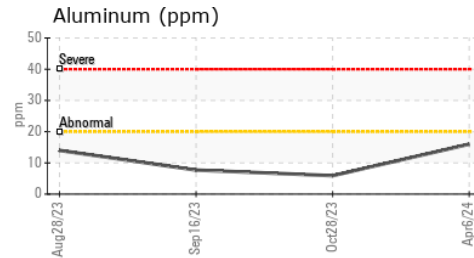
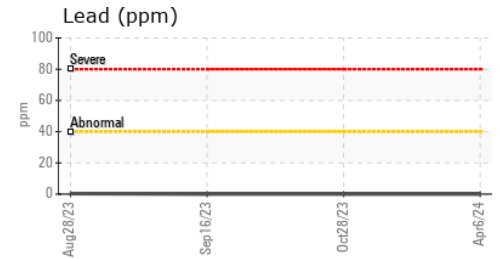
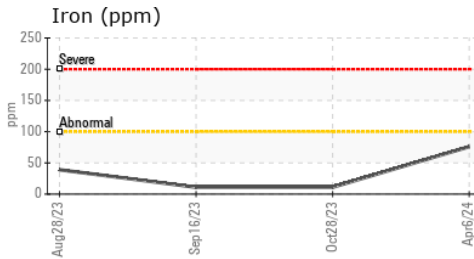
Viscosity @ 100°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.2	14.2	13.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0917245 **Received** : 17 May 2024
Lab Number : 06183791 **Tested** : 20 May 2024
Unique Number : 11035117 **Diagnosed** : 20 May 2024 - Wes Davis
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)