



LIEBHERR

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
024016-935
Component
Diesel Engine
Fluid
PETRO CANADA 10W40 (24 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LH0276283	LH0155152	LH0124228
Sample Date		Client Info		08 Apr 2024	29 Nov 2019	16 May 2018
Machine Age	hrs	Client Info		21501	17886	17138
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>66	11	43	35
Chromium	ppm	ASTM D5185(m)	>4	<1	1	1
Nickel	ppm	ASTM D5185(m)	>4	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>8	2	3	3
Lead	ppm	ASTM D5185(m)	>10	<1	7	4
Copper	ppm	ASTM D5185(m)	>74	2	7	18
Tin	ppm	ASTM D5185(m)	>4	0	2	2
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

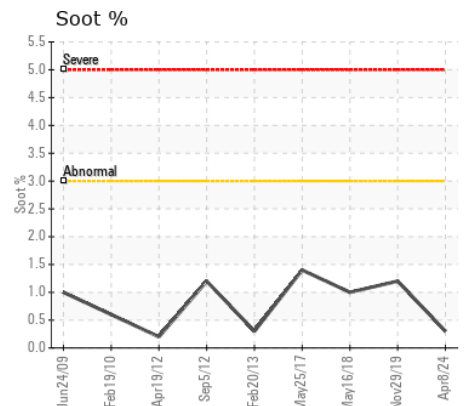
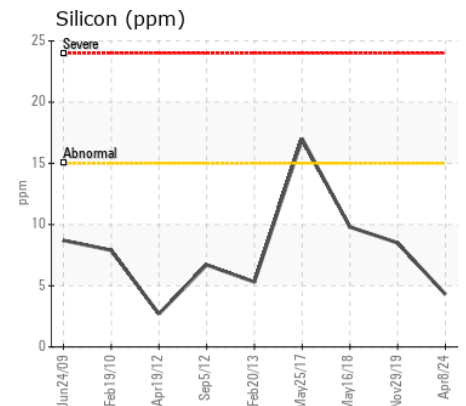
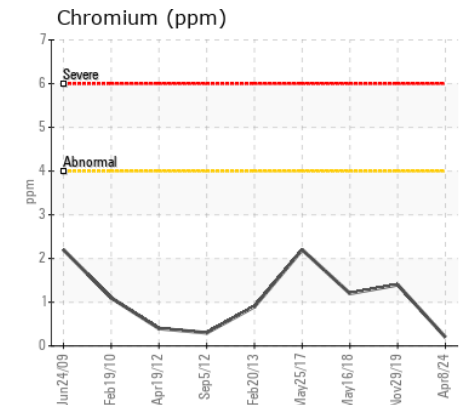
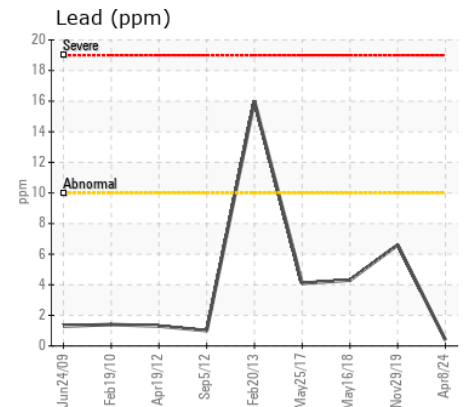
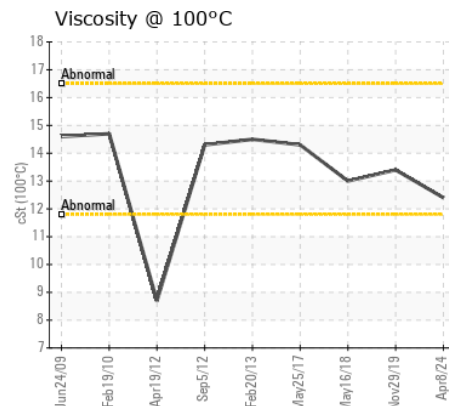
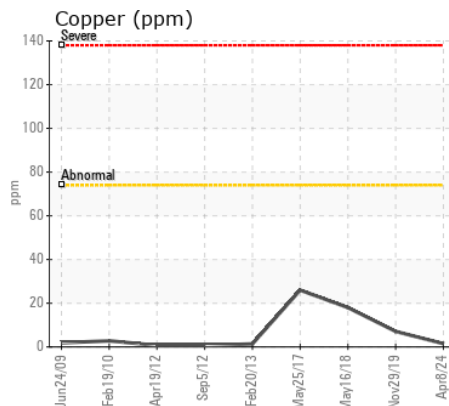
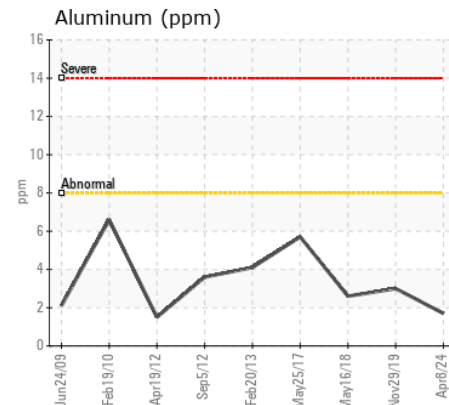
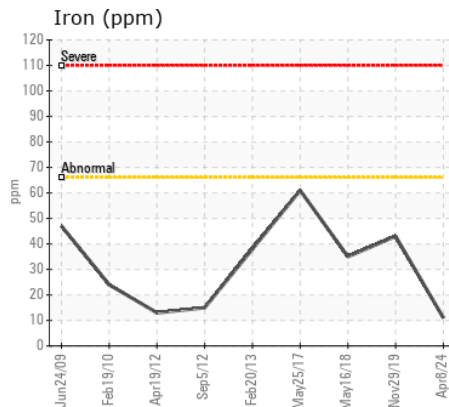
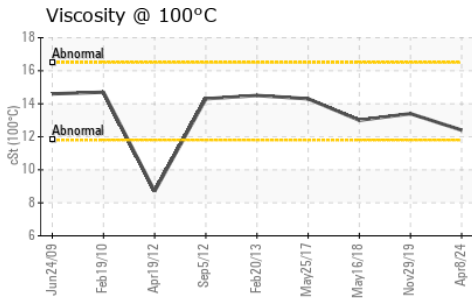
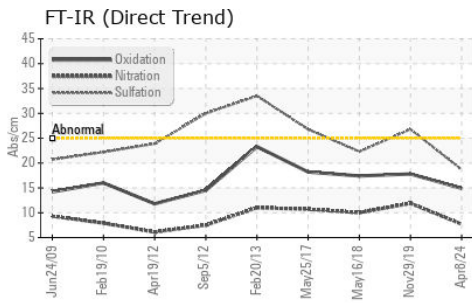
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>15	4	8	10
Potassium	ppm	ASTM D5185(m)	>20	2	4	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.3	1.2	1
Nitration	Abs/cm	ASTM D7624*	>20	7.7	11.9	10.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	18.7	26.8	22.3
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)	>20	4	3	6
Boron	ppm	ASTM D5185(m)		2	1	2
Barium	ppm	ASTM D5185(m)		0	<1	<1
Molybdenum	ppm	ASTM D5185(m)		61	60	69
Manganese	ppm	ASTM D5185(m)		0	<1	<1
Magnesium	ppm	ASTM D5185(m)		993	906	1044
Calcium	ppm	ASTM D5185(m)		1089	1414	1275
Phosphorus	ppm	ASTM D5185(m)		1014	1089	1153
Zinc	ppm	ASTM D5185(m)		1227	1311	1400
Sulfur	ppm	ASTM D5185(m)		2589	2658	2797
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.9	17.8	17.4
Visc @ 100°C	cSt	ASTM D7279(m)		12.4	13.4	▲ 13.0



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : LH0276283
Lab Number : 02627805
Unique Number : 5760937
Test Package : MOB 1
Received : 10 Apr 2024
Tested : 10 Apr 2024
Diagnosed : 10 Apr 2024 - Wes Davis

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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.