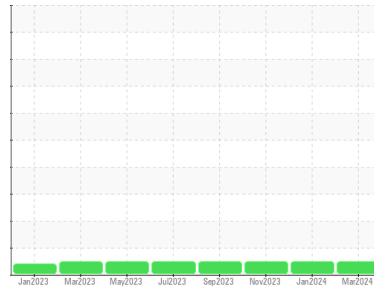


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
Plymouth & Brockton

Machine Id
11448

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

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		PCA0104439	PCA0104733	PCA0098615
Sample Date	Client Info		20 Mar 2024	27 Jan 2024	11 Nov 2023
Machine Age	mls	Client Info	95399	85937	68745
Oil Age	mls	Client Info	24000	12000	24000
Oil Changed	Client Info		Changed	Not Changd	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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 >90	20	11	13
Chromium	ppm	ASTM D5185m >20	1	<1	0
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m >2	<1	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	2	<1
Lead	ppm	ASTM D5185m >40	2	0	0
Copper	ppm	ASTM D5185m >330	<1	0	0
Tin	ppm	ASTM D5185m >15	1	<1	0
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	4	5	6
Barium	ppm	ASTM D5185m 0	0	<1	0
Molybdenum	ppm	ASTM D5185m 60	63	56	60
Manganese	ppm	ASTM D5185m 0	<1	<1	0
Magnesium	ppm	ASTM D5185m 1010	1040	878	1004
Calcium	ppm	ASTM D5185m 1070	1211	984	1210
Phosphorus	ppm	ASTM D5185m 1150	1135	953	1146
Zinc	ppm	ASTM D5185m 1270	1397	1165	1505
Sulfur	ppm	ASTM D5185m 2060	3793	2766	3402

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	4	3	3
Sodium	ppm	ASTM D5185m	2	0	<1
Potassium	ppm	ASTM D5185m >20	2	<1	0

INFRA-RED

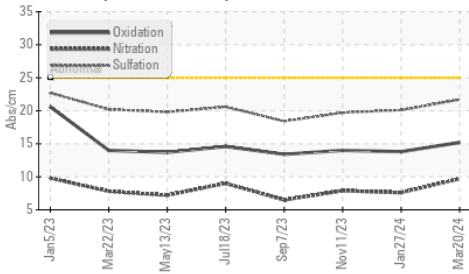
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	1.9	1.2	1.1
Nitration	Abs/cm	*ASTM D7624 >20	9.7	7.6	7.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	21.7	20.1	19.7

FLUID DEGRADATION

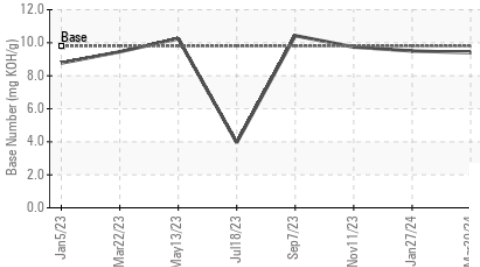
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	15.2	13.8	14.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.40	9.50	9.74

OIL ANALYSIS REPORT

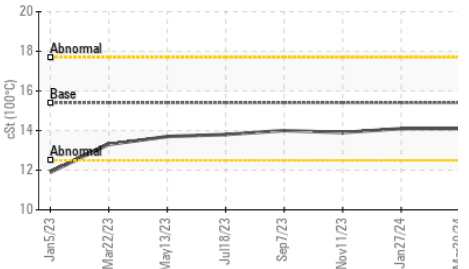
FT-IR (Direct Trend)



Base Number



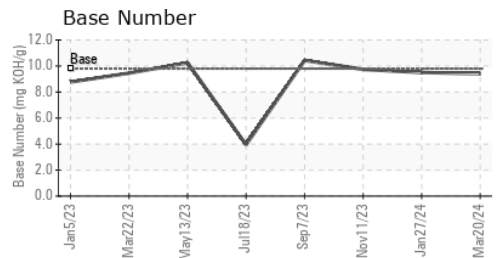
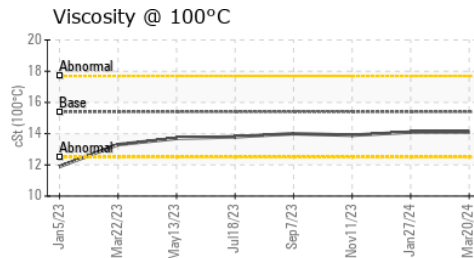
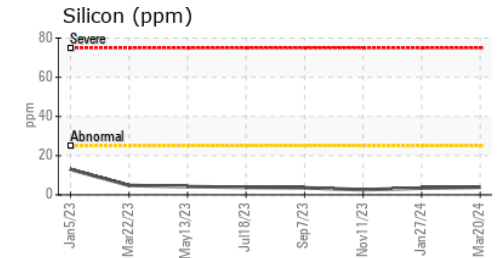
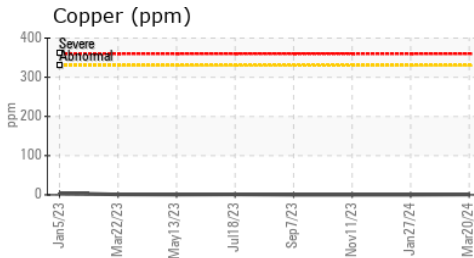
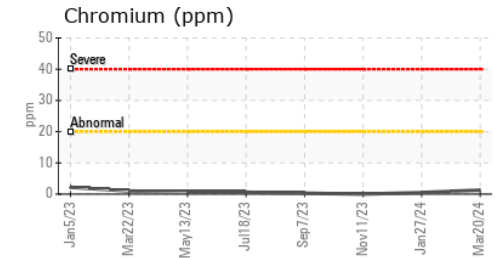
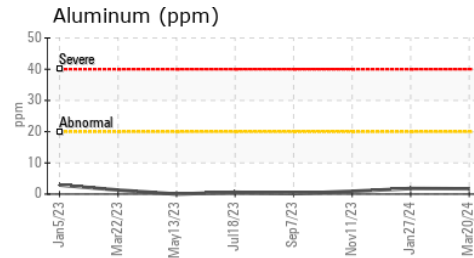
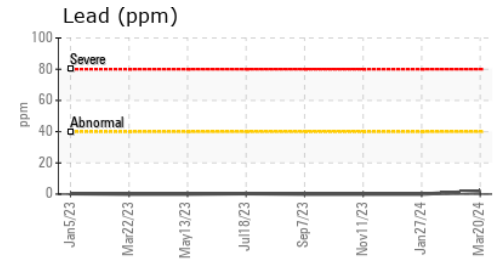
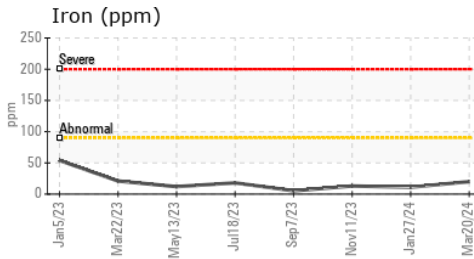
Viscosity @ 100°C



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	15.4	14.1	14.1	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0104439 **Received** : 12 Apr 2024
Lab Number : **06147556** **Tested** : 15 Apr 2024
Unique Number : 10977634 **Diagnosed** : 15 Apr 2024 - Wes Davis
Test Package : MOB 2

PLYMOUTH & BROCKTON
 8 INDUSTRIAL PARK RD
 PLYMOUTH, MA
 US 02360
 Contact: Donald Pelpquin
 Dpelopquin@P-B.com
 T: (508)732-6039
 F: (508)732-6091

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)