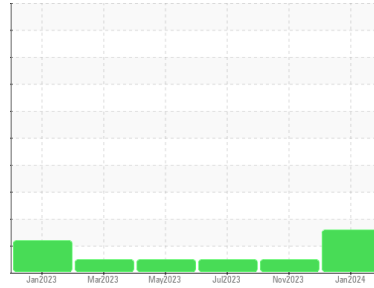


OIL ANALYSIS REPORT

Area
Plymouth & Brockton
 Machine Id
11450
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

Sample Rating Trend



DIAGNOSIS

- Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.
- Wear**
All component wear rates are normal.
- Contamination**
Elemental level of silicon (Si) above normal indicating ingress of seal material.
- 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		PCA0110052	PCA0104682	PCA0013292
Sample Date	Client Info		26 Jan 2024	05 Nov 2023	15 Jul 2023
Machine Age	mls	Client Info	89128	72144	49092
Oil Age	mls	Client Info	12000	24000	24000
Oil Changed	Client Info		Not Chngd	Changed	Changed
Sample Status			ABNORMAL	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	19	16	21
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >2	0	0	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	1	<1
Lead	ppm	ASTM D5185m >40	0	0	<1
Copper	ppm	ASTM D5185m >330	<1	0	<1
Tin	ppm	ASTM D5185m >15	<1	<1	0
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	8	7	7
Barium	ppm	ASTM D5185m 0	3	0	0
Molybdenum	ppm	ASTM D5185m 60	84	61	62
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1275	928	976
Calcium	ppm	ASTM D5185m 1070	1418	1129	1140
Phosphorus	ppm	ASTM D5185m 1150	1349	1034	995
Zinc	ppm	ASTM D5185m 1270	1654	1281	1275
Sulfur	ppm	ASTM D5185m 2060	4545	2994	3551

CONTAMINANTS

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

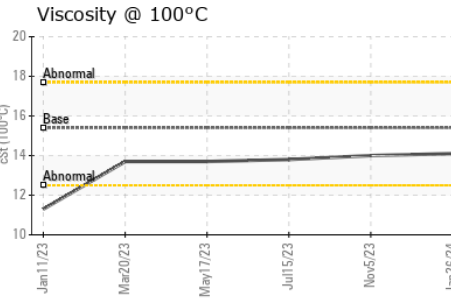
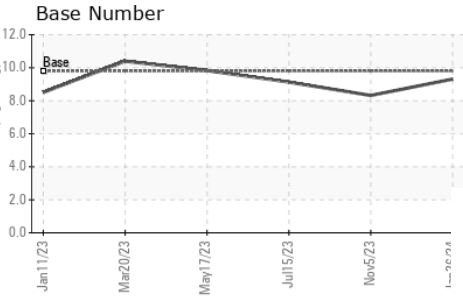
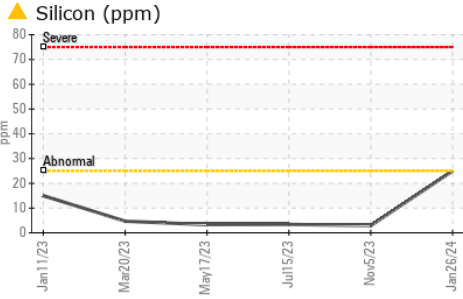
INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	1.3	1.8	1.7
Nitration	Abs/cm	*ASTM D7624 >20	7.7	9.9	9.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.0	22.6	21.7

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	13.8	16.2	15.4
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	9.31	8.32	9.13

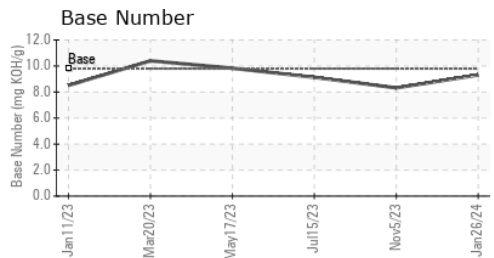
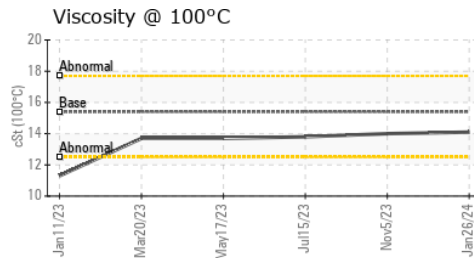
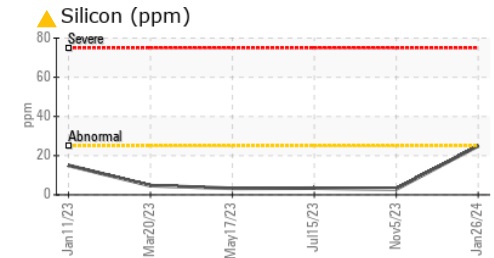
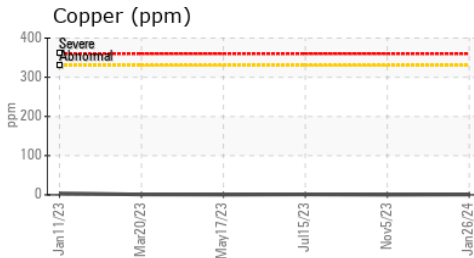
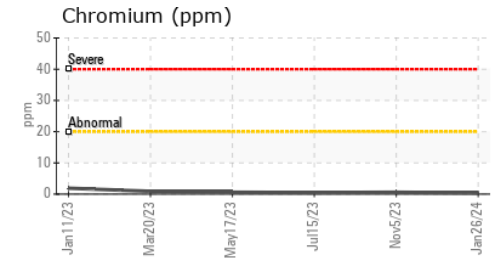
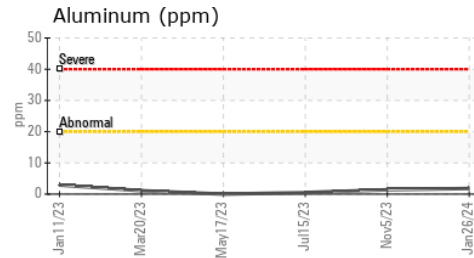
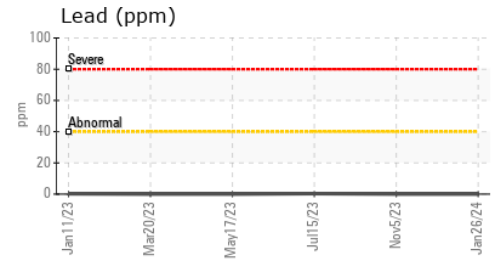
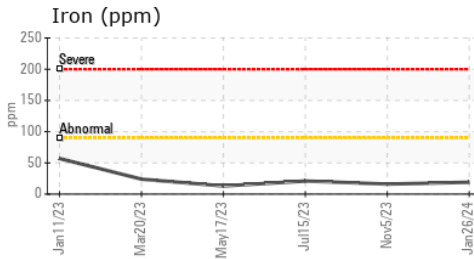
OIL ANALYSIS REPORT



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	14.0	13.8

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0110052 **Received** : 20 Feb 2024
Lab Number : 06094388 **Tested** : 21 Feb 2024
Unique Number : 10887241 **Diagnosed** : 21 Feb 2024 - Sean Felton
Test Package : MOB 2

PLYMOUTH & BROCKTON
 8 INDUSTRIAL PARK RD
 PLYMOUTH, MA
 US 02360
 Contact: Donald Pelquin
 Dpelquin@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)