

# OIL ANALYSIS REPORT

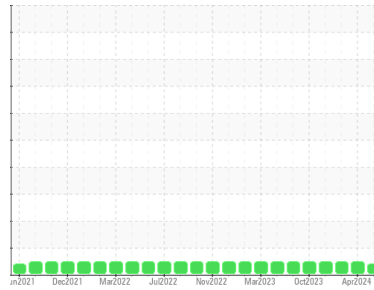
Area  
**Plymouth & Brockton**

Machine Id  
**431**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (36 QTS)**

Sample Rating Trend



**VIS DEBRIS**



## 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

Moderate concentration of visible dirt/debris present 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		<b>PCA0104613</b>	PCA0104426	PCA0104557
Sample Date	Client Info		<b>29 May 2024</b>	10 Apr 2024	17 Jan 2024
Machine Age	mls	Client Info	<b>323200</b>	310793	286708
Oil Age	mls	Client Info	<b>12000</b>	24000	24000
Oil Changed	Client Info		<b>Not Chngd</b>	Changed	Changed
Sample Status			<b>ABNORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >90	<b>11</b>	22	19
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	1	1
Nickel	ppm	ASTM D5185m >2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m >2	<b>&lt;1</b>	<1	1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	2	2
Lead	ppm	ASTM D5185m >40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>12</b>	5	6
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m 60	<b>63</b>	58	57
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>1054</b>	878	862
Calcium	ppm	ASTM D5185m 1070	<b>1249</b>	1073	998
Phosphorus	ppm	ASTM D5185m 1150	<b>1079</b>	1066	930
Zinc	ppm	ASTM D5185m 1270	<b>1351</b>	1213	1158
Sulfur	ppm	ASTM D5185m 2060	<b>3880</b>	3316	2635

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>3</b>	4	4
Sodium	ppm	ASTM D5185m	<b>2</b>	2	<1
Potassium	ppm	ASTM D5185m >20	<b>1</b>	6	<1

## INFRA-RED

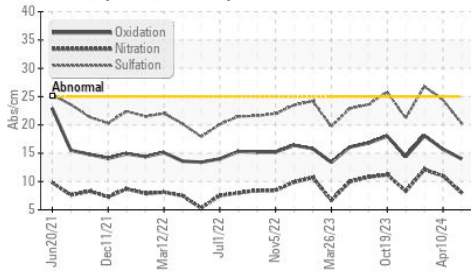
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >6	<b>1.4</b>	3.1	3.2
Nitration	Abs/cm	*ASTM D7624 >20	<b>8.0</b>	11.0	12.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>20.3</b>	24.4	26.8

## FLUID DEGRADATION

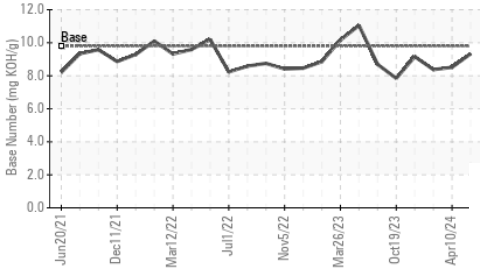
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>14.0</b>	15.7	18.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>9.33</b>	8.51	8.37

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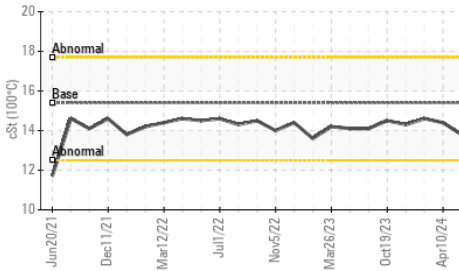
FT-IR (Direct Trend)



Base Number



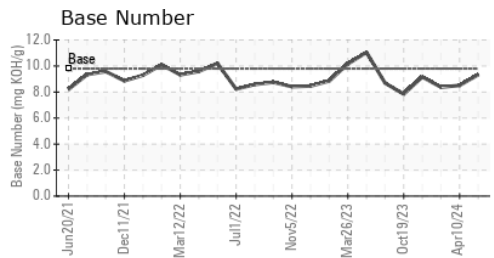
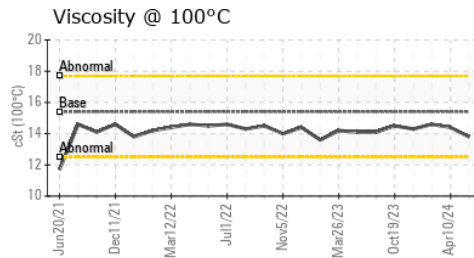
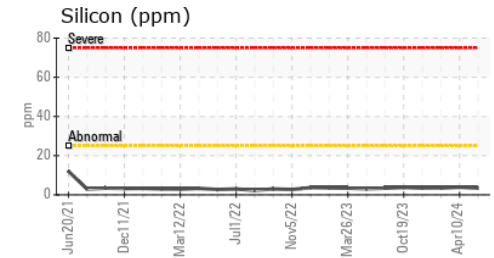
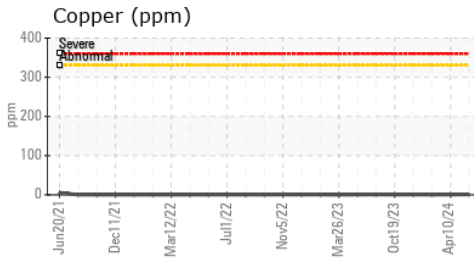
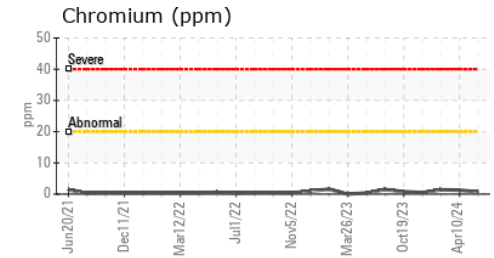
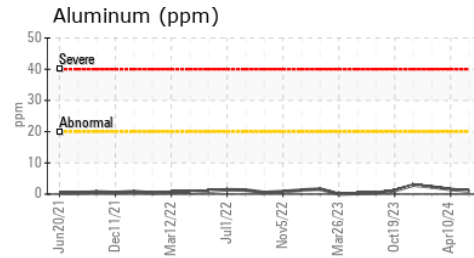
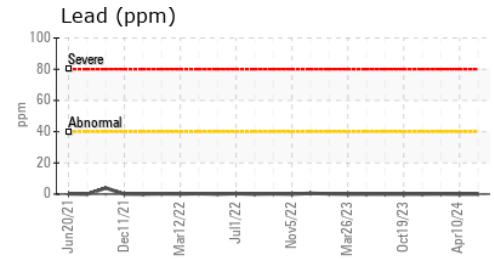
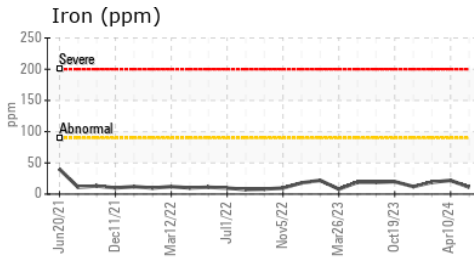
Viscosity @ 100°C



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	▲ MODER	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	13.8	14.4

## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0104613      **Received** : 19 Jun 2024  
**Lab Number** : 06214931      **Tested** : 20 Jun 2024  
**Unique Number** : 11087795      **Diagnosed** : 21 Jun 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)