



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**8612**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>NL0002241</b>	NL0001845	NL0001699
Sample Date		Client Info		<b>09 May 2024</b>	14 Feb 2024	13 Nov 2023
Machine Age	mls	Client Info		<b>319685</b>	281619	242127
Oil Age	mls	Client Info		<b>45000</b>	45000	45000
Filter Age	mls	Client Info		<b>45000</b>	45000	45000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>54</b>	48	36
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>2</b>	3	2
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>7</b>	8	9
Lead	ppm	ASTM D5185m	>40	<b>4</b>	1	2
Copper	ppm	ASTM D5185m	>330	<b>18</b>	21	15
Tin	ppm	ASTM D5185m	>15	<b>2</b>	2	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

There is no indication of any contamination in the oil.

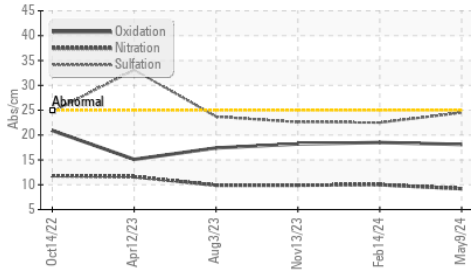
Silicon	ppm	ASTM D5185m	>25	<b>10</b>	8	6
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	11	29
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.8	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.2</b>	10.0	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.5</b>	22.5	22.6
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

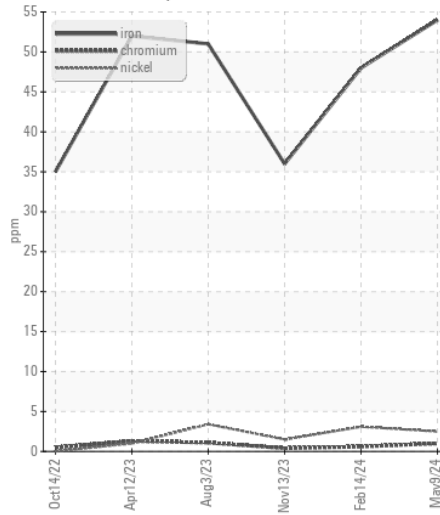
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	2	0
Boron	ppm	ASTM D5185m	0	<b>40</b>	6	<1
Barium	ppm	ASTM D5185m	0	<b>2</b>	<1	<1
Molybdenum	ppm	ASTM D5185m	60	<b>83</b>	65	64
Manganese	ppm	ASTM D5185m	0	<b>2</b>	2	<1
Magnesium	ppm	ASTM D5185m	1010	<b>565</b>	971	902
Calcium	ppm	ASTM D5185m	1070	<b>1358</b>	1171	1080
Phosphorus	ppm	ASTM D5185m	1150	<b>1053</b>	1041	941
Zinc	ppm	ASTM D5185m	1270	<b>1284</b>	1306	1188
Sulfur	ppm	ASTM D5185m	2060	<b>3017</b>	3275	2679
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.1</b>	18.5	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>5.4</b>	6.1	6.2
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.1</b>	13.5	13.6

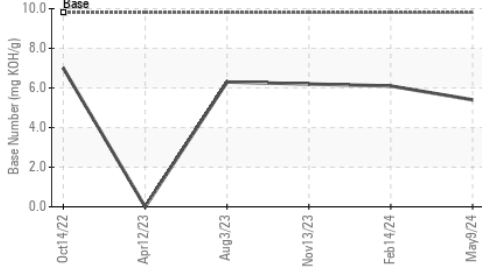
**FT-IR (Direct Trend)**



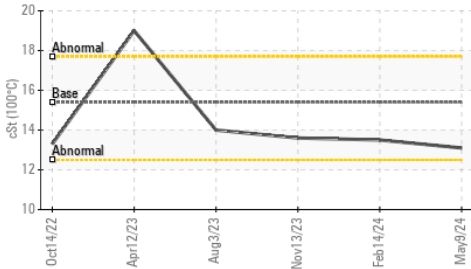
**Ferrous Alloys**



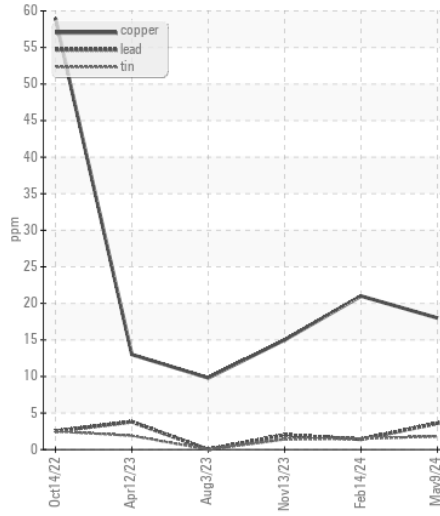
**Base Number**



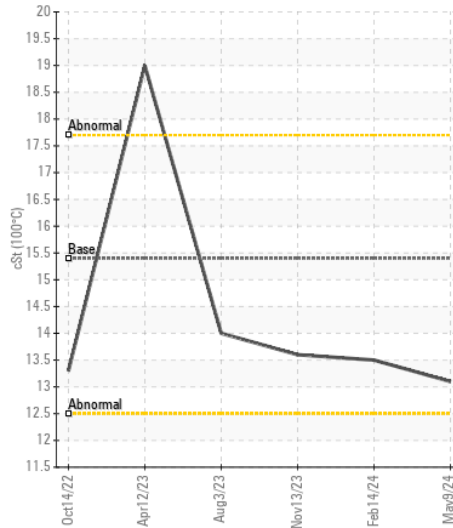
**Viscosity @ 100°C**



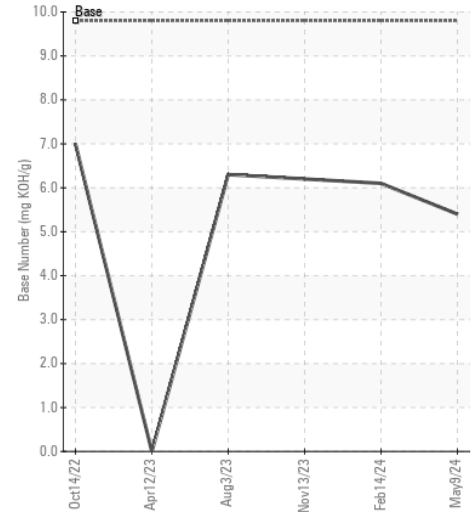
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NL0002241  
**Lab Number** : 06217848  
**Unique Number** : 11096045  
**Test Package** : FLEET

**Received** : 24 Jun 2024  
**Tested** : 25 Jun 2024  
**Diagnosed** : 25 Jun 2024 - Don Baldrige

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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)