



# OIL ANALYSIS REPORT

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



Machine Id

**G11**

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>WC0841438</b>	WC0841420	WC0841453
Sample Date		Client Info		<b>24 May 2024</b>	01 Mar 2024	12 Dec 2023
Machine Age	hrs	Client Info		<b>11398</b>	10860	10249
Oil Age	hrs	Client Info		<b>528</b>	511	578
Filter Age	hrs	Client Info		<b>528</b>	511	578
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	>120	<b>5</b>	6	8
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	2	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	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.

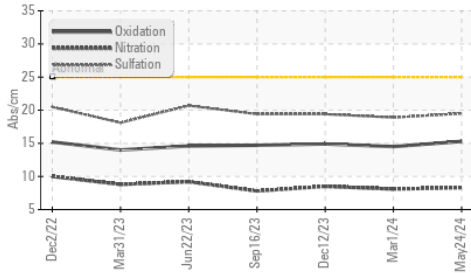
Silicon	ppm	ASTM D5185m	>25	<b>3</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	1	<1
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>0.4</b>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.3</b>	8.1	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.5</b>	18.9	19.4
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

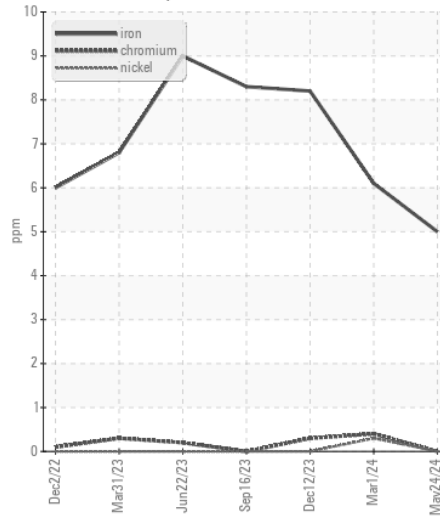
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	2	2
Boron	ppm	ASTM D5185m	0	<b>3</b>	6	8
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>53</b>	62	65
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>852</b>	921	878
Calcium	ppm	ASTM D5185m	1070	<b>1084</b>	1119	1297
Phosphorus	ppm	ASTM D5185m	1150	<b>938</b>	982	1062
Zinc	ppm	ASTM D5185m	1270	<b>1121</b>	1213	1250
Sulfur	ppm	ASTM D5185m	2060	<b>3180</b>	3645	3125
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.3</b>	14.5	14.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.3</b>	7.4	6.9
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.7</b>	12.6	12.5

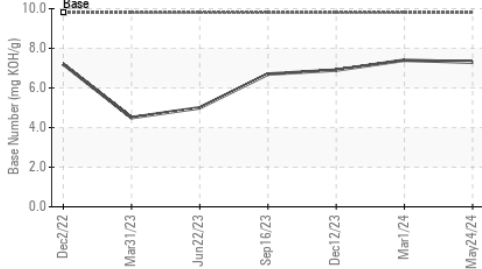
**FT-IR (Direct Trend)**



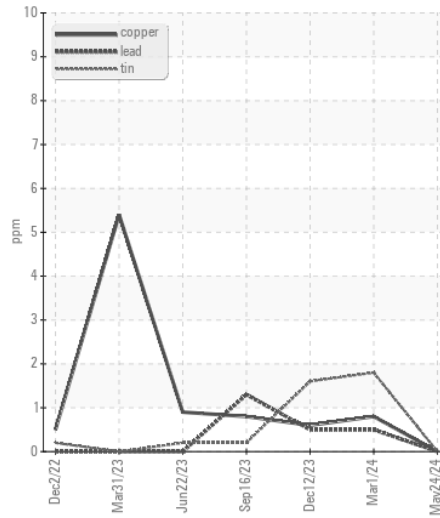
**Ferrous Alloys**



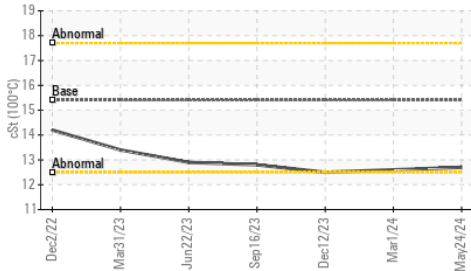
**Base Number**



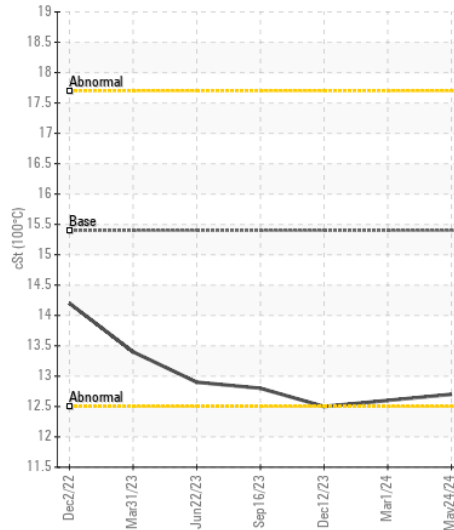
**Non-ferrous Metals**



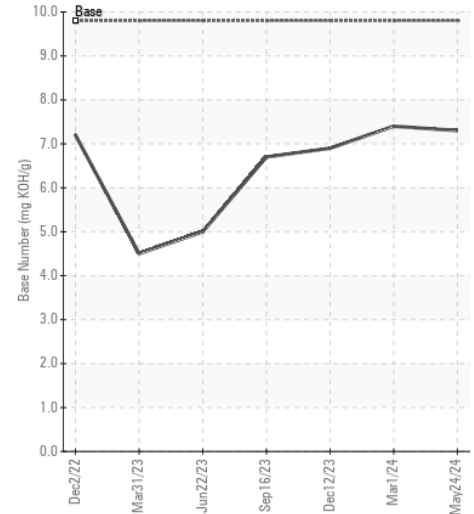
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0841438 **Received** : 19 Jun 2024  
**Lab Number** : 06214294 **Tested** : 20 Jun 2024  
**Unique Number** : 11087158 **Diagnosed** : 20 Jun 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**Apple Valley Waste - SEW Location**  
 309 Salina Road  
 Sewell, NJ  
 US 08080  
 Contact: Service Manager

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)

T:  
F: