



# OIL ANALYSIS REPORT

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

Machine Id  
**8607**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

## RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>NL0001838</b>	NL0001694	NL0000522
Sample Date		Client Info		<b>11 Jan 2024</b>	30 Oct 2023	20 Jul 2023
Machine Age	mls	Client Info		<b>330155</b>	292190	240250
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>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>40</b>	57	30
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>2</b>	<1	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	5	4
Lead	ppm	ASTM D5185m	>40	<b>2</b>	4	0
Copper	ppm	ASTM D5185m	>330	<b>19</b>	19	10
Tin	ppm	ASTM D5185m	>15	<b>1</b>	2	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

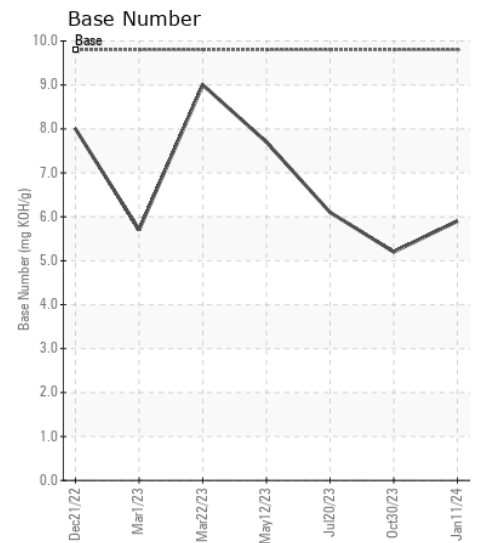
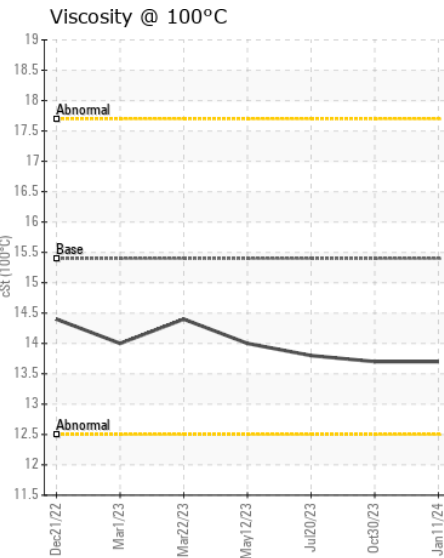
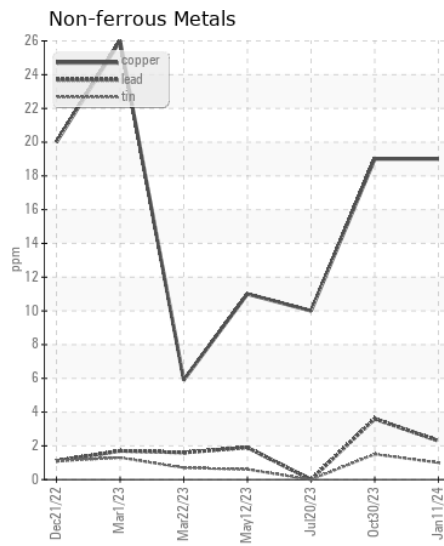
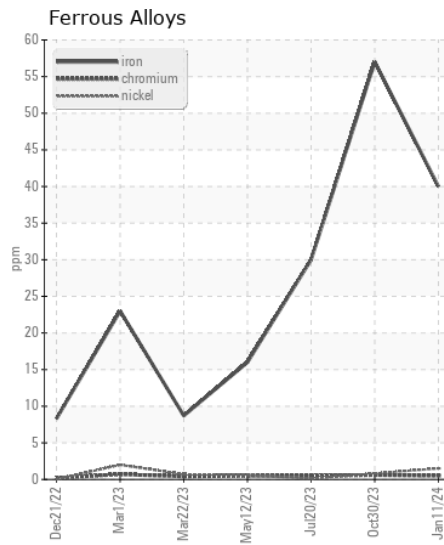
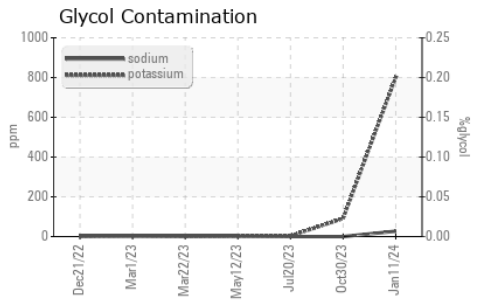
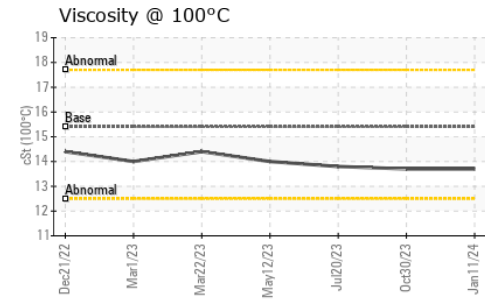
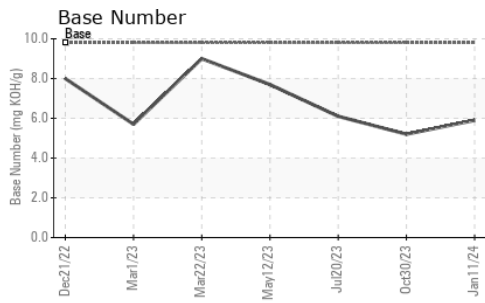
Sodium and/or potassium levels are high.

Silicon	ppm	ASTM D5185m	>25	<b>9</b>	11	5
Potassium	ppm	ASTM D5185m	>20	<b>▲ 801</b>	<b>▲ 91</b>	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.9	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.4</b>	10.3	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.0</b>	24.0	21.7
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.

Sodium	ppm	ASTM D5185m		<b>▲ 27</b>	0	0
Boron	ppm	ASTM D5185m	0	<b>&lt;1</b>	1	0
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	5	0
Molybdenum	ppm	ASTM D5185m	60	<b>70</b>	68	65
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	1	0
Magnesium	ppm	ASTM D5185m	1010	<b>851</b>	928	1084
Calcium	ppm	ASTM D5185m	1070	<b>1092</b>	1166	1211
Phosphorus	ppm	ASTM D5185m	1150	<b>914</b>	1025	1077
Zinc	ppm	ASTM D5185m	1270	<b>1121</b>	1238	1474
Sulfur	ppm	ASTM D5185m	2060	<b>2965</b>	2911	3808
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.8</b>	19.6	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>5.9</b>	5.2	6.1
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.7</b>	13.7	13.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : NL0001838

Lab Number : 06076696

Unique Number : 10858787

Test Package : FLEET ( Additional Tests: Glycol )

Received : 01 Feb 2024

Tested : 05 Feb 2024

Diagnosed : 05 Feb 2024 - Jonathan Hester

FOX & JAMES NATIONALEASE - Manassas

1145 INDUSTRIAL RD

MANASSAS, VA

US 20109

Contact: JOSH ROLAND

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F:

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)