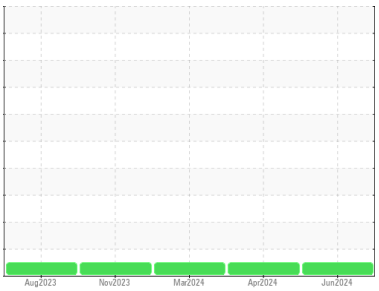
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
INTERNATIONAL 51968
Component
Diesel Engine
Fluid
PETRO CANADA DURON SAE 10W30 (--- LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0948302**	WC0915086	WC0899684
Sample Date		Client Info		**05 Jun 2024**	15 Apr 2024	04 Mar 2024
Machine Age	mls	Client Info		**182313**	153583	127147
Oil Age	mls	Client Info		**28730**	26436	29186
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<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 D5185(m)	>100	**17**	14	22
Chromium	ppm	ASTM D5185(m)	>20	**1**	<1	2
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	**9**	4	5
Lead	ppm	ASTM D5185(m)	>40	**<1**	0	1
Copper	ppm	ASTM D5185(m)	>330	**<1**	<1	1
Tin	ppm	ASTM D5185(m)	>15	**0**	0	<1
Antimony	ppm	ASTM D5185(m)		**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

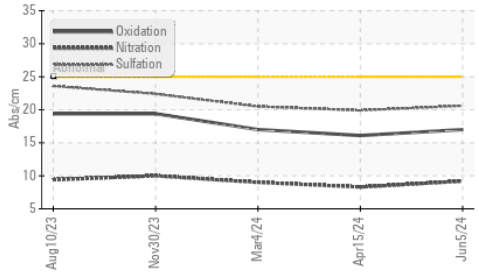
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	1	**2**	2	3
Barium	ppm	ASTM D5185(m)	1	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	1	**61**	60	61
Manganese	ppm	ASTM D5185(m)	1	**<1**	<1	0
Magnesium	ppm	ASTM D5185(m)	10	**983**	995	984
Calcium	ppm	ASTM D5185(m)	2942	**1084**	1077	1042
Phosphorus	ppm	ASTM D5185(m)	1102	**1002**	1010	1016
Zinc	ppm	ASTM D5185(m)	1351	**1221**	1229	1206
Sulfur	ppm	ASTM D5185(m)	3903	**2459**	2441	2561
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**4**	2	4
Sodium	ppm	ASTM D5185(m)		**2**	1	1
Potassium	ppm	ASTM D5185(m)	>20	**16**	3	16

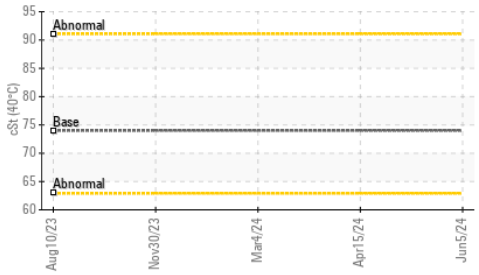
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.3**	0.2	0.4
Nitration	Abs/cm	ASTM D7624*	>20	**9.2**	8.3	9.0
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.6**	19.9	20.5

OIL ANALYSIS REPORT

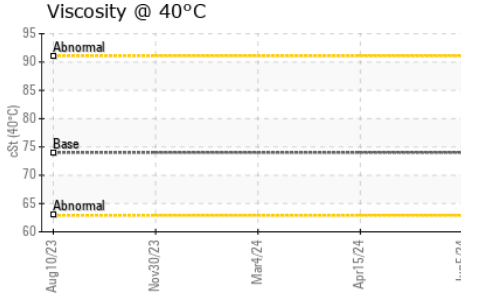
FT-IR (Direct Trend)



Viscosity @ 40°C



Viscosity @ 40°C



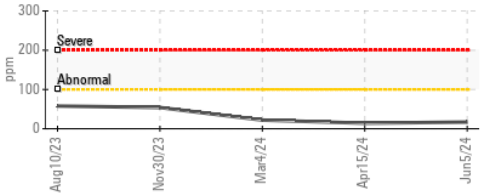
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.0**	16.1	17.0

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**---**	NONE	---
Yellow Metal	scalar	Visual*	NONE	**---**	NONE	---
Precipitate	scalar	Visual*	NONE	**---**	NONE	---
Silt	scalar	Visual*	NONE	**---**	NONE	---
Debris	scalar	Visual*	NONE	**---**	NONE	---
Sand/Dirt	scalar	Visual*	NONE	**---**	NONE	---
Appearance	scalar	Visual*	NORML	**---**	NORML	---
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

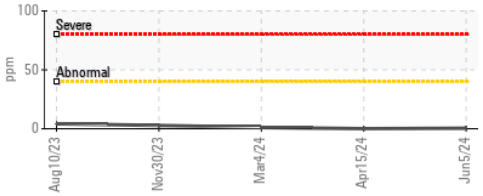
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	74.0	**77.2**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	11.4	**11.5**	11.2	11.3
Viscosity Index (VI)	Scale	ASTM D2270*	146	**141**	---	---

GRAPHS

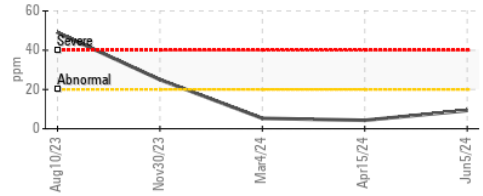
Iron (ppm)



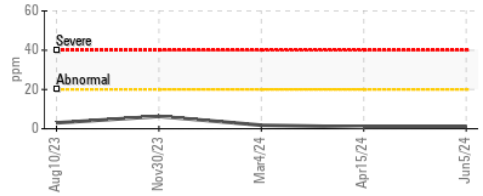
Lead (ppm)



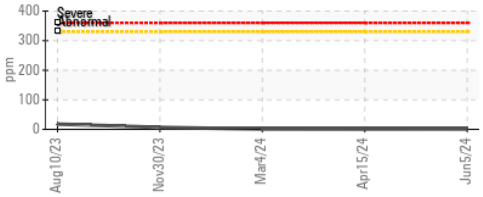
Aluminum (ppm)



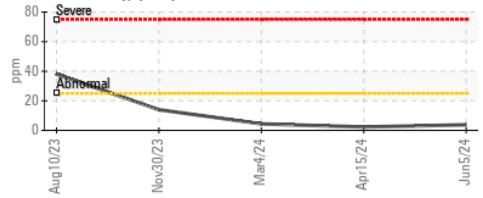
Chromium (ppm)



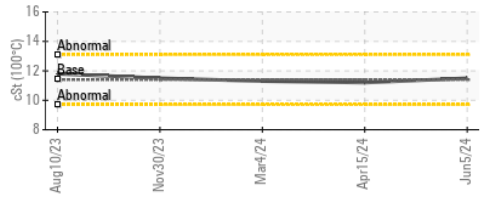
Copper (ppm)



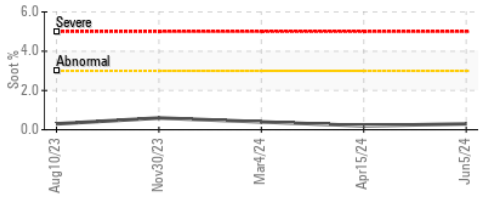
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0948302
Lab Number : 02642473
Unique Number : 5800012
Test Package : MOB 1 (Additional Tests: KV40, VI, Visual)

Received : 18 Jun 2024
Tested : 18 Jun 2024
Diagnosed : 18 Jun 2024 - Wes Davis

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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