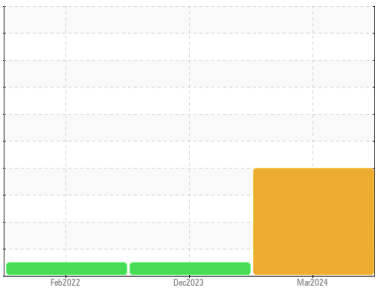
OIL DIAGNOSTICS

PROBLEM SUMMARY

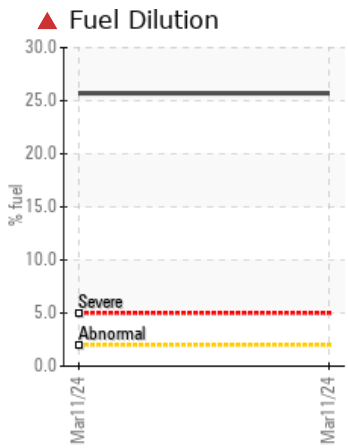
Sample Rating Trend

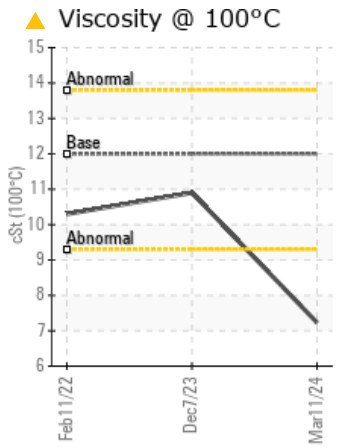


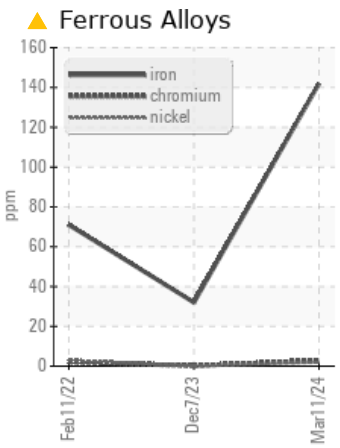
FUEL

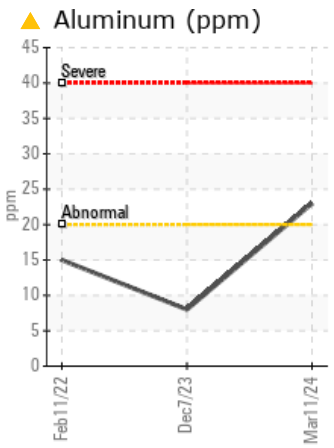
Machine Id
INTERNATIONAL 003349
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (31 QTS)

COMPONENT CONDITION SUMMARY









RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	▲ **142**	32	71
Aluminum	ppm	ASTM D5185m	>20	▲ **23**	8	15
Fuel	%	ASTM D3524	>2.0	▲ **25.7**	<1.0	<1.0
Visc @ 100°C	cSt	ASTM D445	12.00	▲ **7.23**	10.9	10.3

Customer Id: ICSB370
Sample No.: PCA0112704
Lab Number: 06215298
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

07 Dec 2023 Diag: Sean Felton

NORMAL

view report

11 Feb 2022 Diag: Jonathan Hester

NORMAL

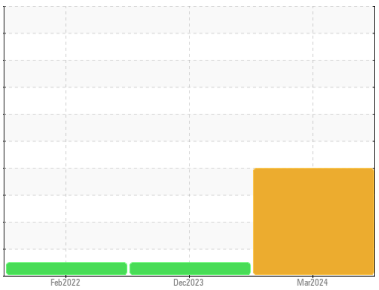
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
INTERNATIONAL 003349
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (31 QTS)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Piston and cylinder wear is indicated.

Contamination
There is a high amount of fuel present in the oil.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0112704**	PCA0091660	PCA0045438
Sample Date		Client Info		**11 Mar 2024**	07 Dec 2023	11 Feb 2022
Machine Age	mls	Client Info		**98103**	91314	81987
Oil Age	mls	Client Info		**6784**	9327	81987
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**SEVERE**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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 D5185m	>100	▲ **142**	32	71
Chromium	ppm	ASTM D5185m	>20	**3**	<1	2
Nickel	ppm	ASTM D5185m	>4	**2**	0	3
Titanium	ppm	ASTM D5185m		**<1**	0	<1
Silver	ppm	ASTM D5185m	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185m	>20	▲ **23**	8	15
Lead	ppm	ASTM D5185m	>40	**8**	0	2
Copper	ppm	ASTM D5185m	>330	**6**	1	4
Tin	ppm	ASTM D5185m	>15	**<1**	0	2
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**0**	0	3
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	50	**53**	62	64
Manganese	ppm	ASTM D5185m	0	**1**	0	2
Magnesium	ppm	ASTM D5185m	950	**689**	902	969
Calcium	ppm	ASTM D5185m	1050	**850**	1028	1173
Phosphorus	ppm	ASTM D5185m	995	**799**	857	1049
Zinc	ppm	ASTM D5185m	1180	**908**	1168	1262
Sulfur	ppm	ASTM D5185m	2600	**2559**	2909	2829

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**11**	6	16
Sodium	ppm	ASTM D5185m		**4**	0	4
Potassium	ppm	ASTM D5185m	>20	**5**	1	<1
Fuel	%	ASTM D3524	>2.0	▲ **25.7**	<1.0	<1.0

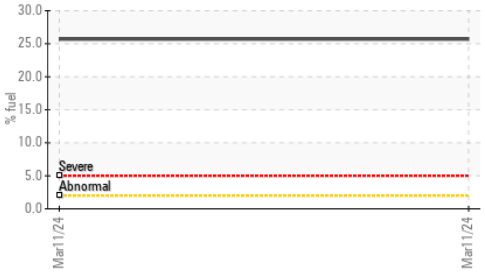
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**2.6**	0.6	1
Nitration	Abs/cm	*ASTM D7624	>20	**13.4**	6.6	11.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**29.5**	18.8	21.6

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**28.5**	14.2	16.6
Base Number (BN)	mg KOH/g	ASTM D2896		**6.0**	10.4	12.7

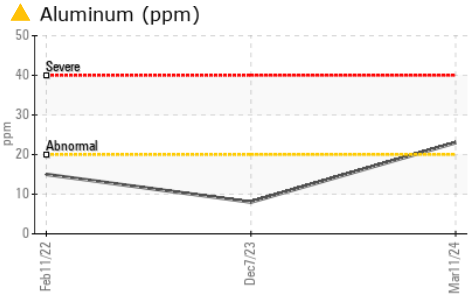
OIL ANALYSIS REPORT

OIL DIAGNOSTICS

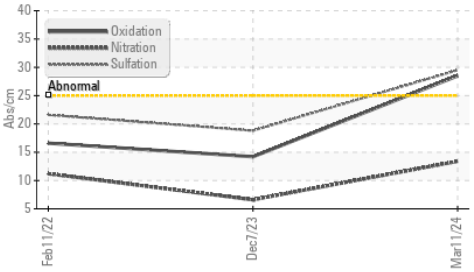
Fuel Dilution



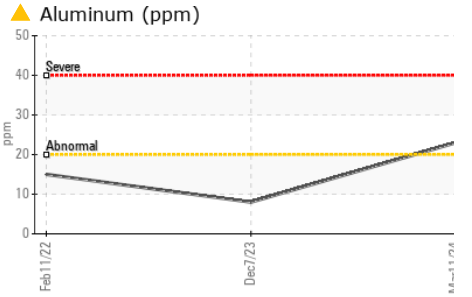
Aluminum (ppm)



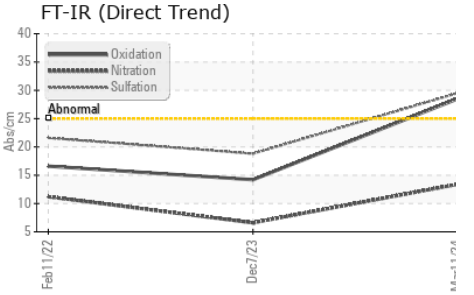
FT-IR (Direct Trend)



Aluminum (ppm)



FT-IR (Direct Trend)

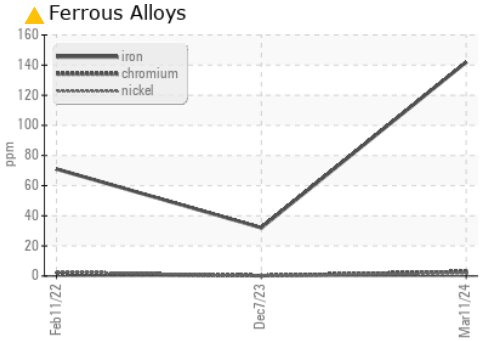


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	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

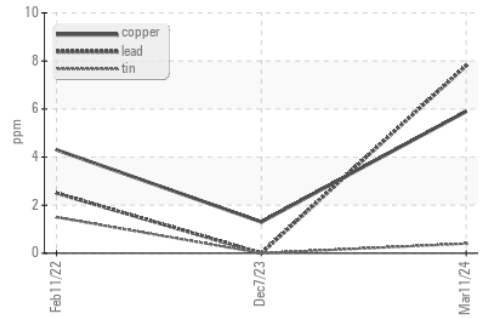
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	▲ **7.23**	10.9	10.3

GRAPHS

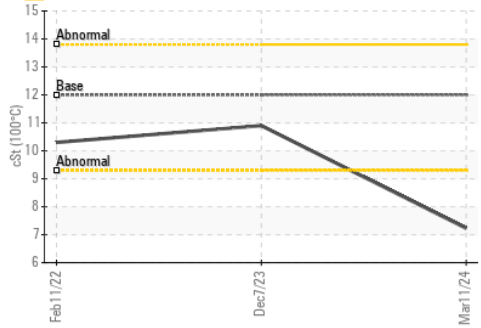
Ferrous Alloys



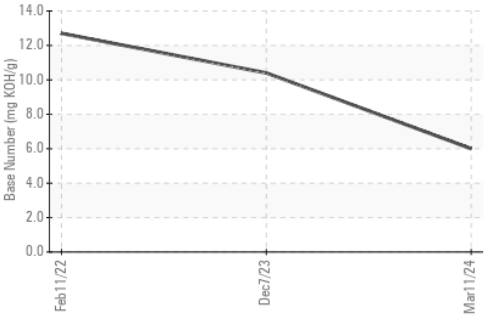
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0112704 **Received** : 20 Jun 2024
Lab Number : 06215298 **Tested** : 27 Jun 2024
Unique Number : 11088162 **Diagnosed** : 27 Jun 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

Certificate L2367

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)

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