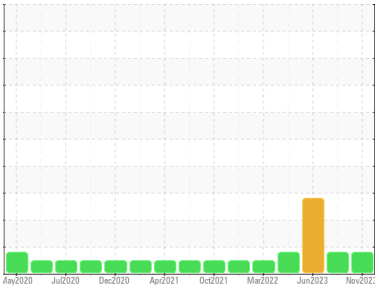
PROBLEM SUMMARY

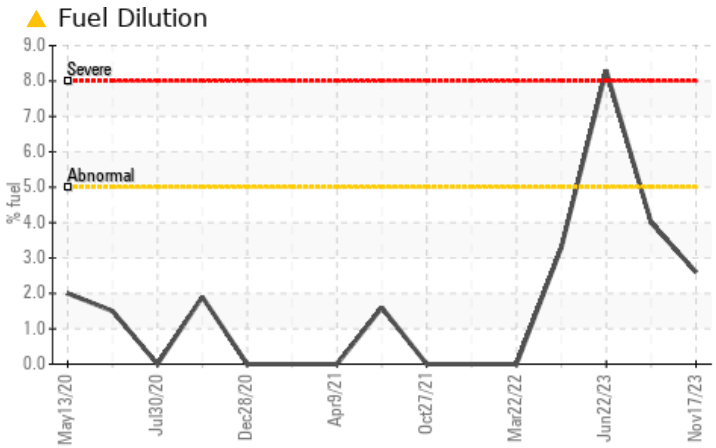
Sample Rating Trend



FUEL

Machine Id
0860
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

PROBLEMATIC TEST RESULTS

Sample Status				**MARGINAL**	MARGINAL	SEVERE
Fuel	%	ASTM D7593*	>5	▲ **2.6**	▲ 4	⬢ 8.3

Customer Id: STJNEW
Sample No.: PC0076639
Lab Number: 02601468
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

30 Aug 2023 Diag: Wes Davis

FUEL

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The condition of the oil is acceptable for the time in service.

view report

22 Jun 2023 Diag: Kevin Marson

FUEL

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. 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 a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

16 May 2022 Diag: Wes Davis

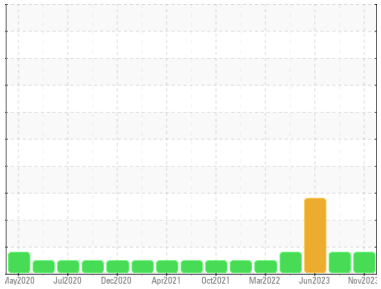
FUEL

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. No other contaminants were detected in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
0860
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0076639**	PC0031543	PC0031579
Sample Date		Client Info		**17 Nov 2023**	30 Aug 2023	22 Jun 2023
Machine Age	kms	Client Info		**892619**	876200	863370
Oil Age	kms	Client Info		**16419**	876200	11833
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**MARGINAL**	MARGINAL	SEVERE

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 D5185(m)	>100	**32**	24	14
Chromium	ppm	ASTM D5185(m)	>20	**1**	1	<1
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>20	**2**	3	2
Lead	ppm	ASTM D5185(m)	>40	**3**	2	1
Copper	ppm	ASTM D5185(m)	>330	**2**	1	<1
Tin	ppm	ASTM D5185(m)	>15	**0**	0	0
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

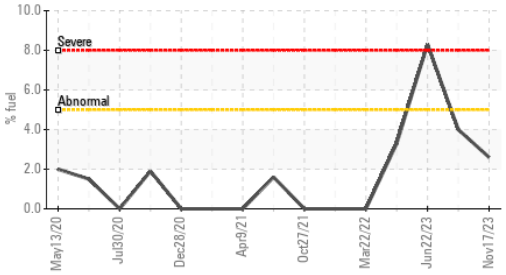
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**4**	12	63
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	60	**63**	54	12
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**1034**	871	178
Calcium	ppm	ASTM D5185(m)	1070	**1153**	1216	1945
Phosphorus	ppm	ASTM D5185(m)	1150	**1076**	1080	959
Zinc	ppm	ASTM D5185(m)	1270	**1299**	1204	1107
Sulfur	ppm	ASTM D5185(m)	2060	**2625**	2536	2601
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**10**	10	12
Sodium	ppm	ASTM D5185(m)		**5**	6	7
Potassium	ppm	ASTM D5185(m)	>20	**0**	2	6
Fuel	%	ASTM D7593*	>5	▲ **2.6**	▲ 4	⬢ 8.3

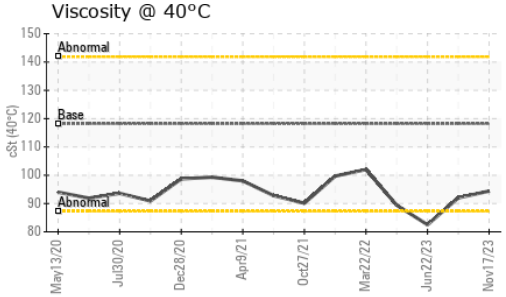
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.8**	0.6	0.5
Nitration	Abs/cm	ASTM D7624*	>20	**9.8**	9.5	9.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	**22.5**	22.2	23.3

OIL ANALYSIS REPORT

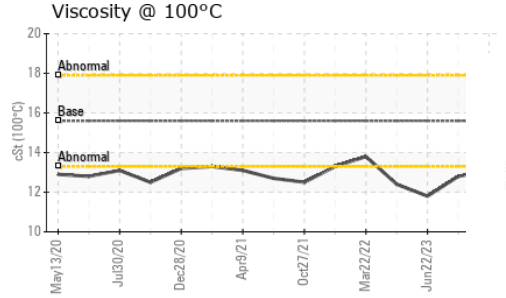
Fuel Dilution



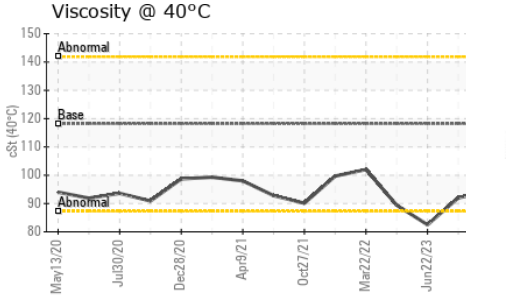
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



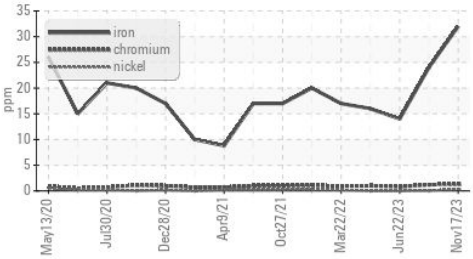
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.5**	17.6	19.6
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	**9.42**	---	---

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

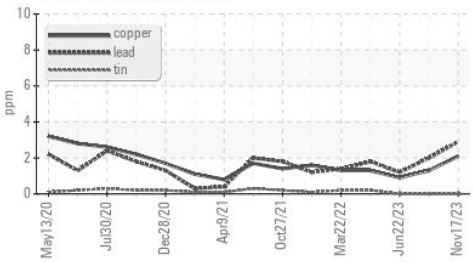
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	**94.4**	92.0	▲ 82.5
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	**13.1**	12.8	▲ 11.8
Viscosity Index (VI)	Scale	ASTM D2270*	139	**137**	136	135

GRAPHS

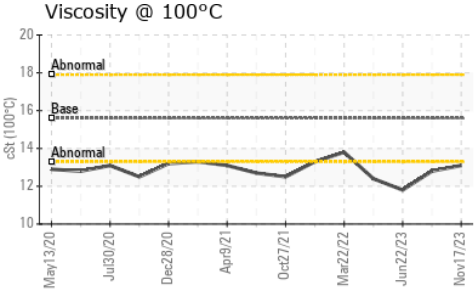
Ferrous Alloys



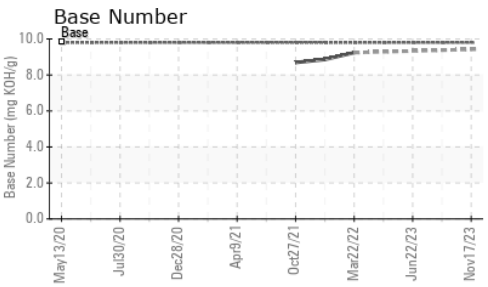
Non-ferrous Metals



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076639 **Received** : 07 Dec 2023
Lab Number : 02601468 **Diagnosed** : 13 Dec 2023
Unique Number : 5694553 **Diagnostician** : Wes Davis
Test Package : IND 2 (Additional Tests: FuelDilution, KV40, PercentFuel, VI)

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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