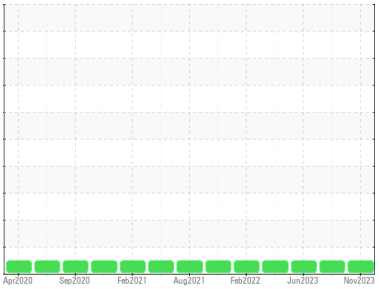
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
1630
Component
Rear 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		**PC0076644**	PC0031837	PC0061467
Sample Date		Client Info		**17 Nov 2023**	12 Sep 2023	17 Jun 2023
Machine Age	kms	Client Info		**471767**	457622	443300
Oil Age	kms	Client Info		**13922**	14768	12803
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**30**	35	25
Chromium	ppm	ASTM D5185(m)	>20	**1**	2	3
Nickel	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	**4**	4	5
Lead	ppm	ASTM D5185(m)	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>330	**5**	5	6
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

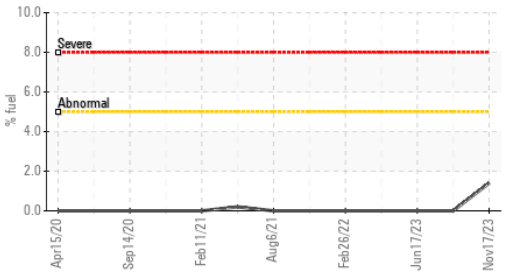
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**6**	15	59
Barium	ppm	ASTM D5185(m)	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	**59**	44	6
Manganese	ppm	ASTM D5185(m)	0	**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	**935**	693	77
Calcium	ppm	ASTM D5185(m)	1070	**1171**	1531	2142
Phosphorus	ppm	ASTM D5185(m)	1150	**1018**	993	999
Zinc	ppm	ASTM D5185(m)	1270	**1248**	1255	1154
Sulfur	ppm	ASTM D5185(m)	2060	**2447**	2565	2807
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**8**	8	6
Sodium	ppm	ASTM D5185(m)		**8**	10	12
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	7
Fuel	%	ASTM D7593*	>5	**1.4**	<1.0	<1.0

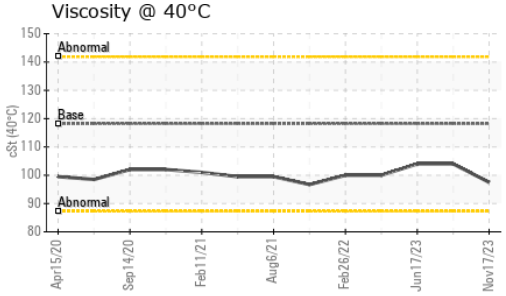
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.4**	0.4	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**10.0**	9.9	10.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	**21.9**	23.3	24.9

OIL ANALYSIS REPORT

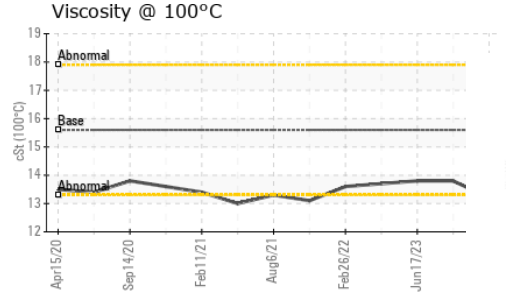
Fuel Dilution



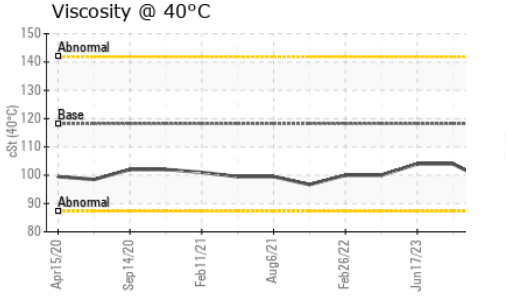
Viscosity @ 40°C



Viscosity @ 100°C



Viscosity @ 40°C



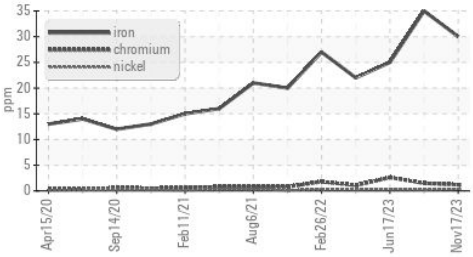
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**18.8**	19.1	21.1
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	**7.20**	---	4.99

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

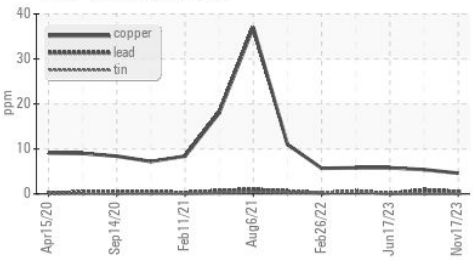
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	**97.5**	104	104
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	**13.2**	13.8	13.8
Viscosity Index (VI)	Scale	ASTM D2270*	139	**133**	133	133

GRAPHS

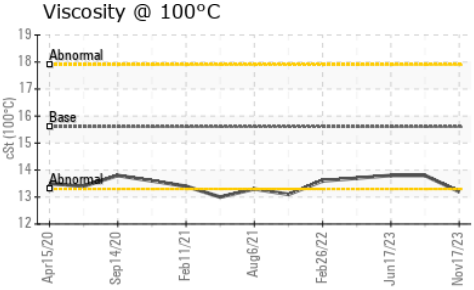
Ferrous Alloys



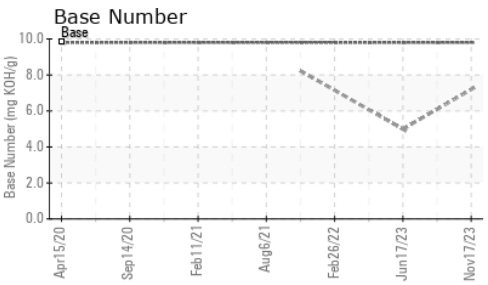
Non-ferrous Metals



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0076644 **Received** : 07 Dec 2023
Lab Number : 02601491 **Diagnosed** : 08 Dec 2023
Unique Number : 5694576 **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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