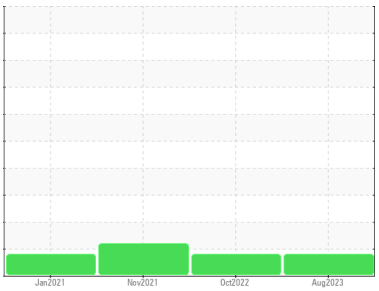
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Area
HALIFAX WATER COMPANY [217431]
Machine Id
INTERNATIONAL WH1306N1113629
Component
Diesel Engine
Fluid
PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Metal levels are typical for a new component breaking in.

Contamination
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition
The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WA0020718**	WA0018298	WA0017292
Sample Date		Client Info		**17 Aug 2023**	25 Oct 2022	12 Nov 2021
Machine Age	hrs	Client Info		**553**	531	430
Oil Age	hrs	Client Info		**25**	100	17
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

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)	>140	**1**	2	1
Chromium	ppm	ASTM D5185(m)	>4	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>4	**0**	0	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)	>3	**<1**	0	<1
Aluminum	ppm	ASTM D5185(m)	>12	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>50	**2**	2	1
Tin	ppm	ASTM D5185(m)	>4	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
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)		**3**	17	164
Barium	ppm	ASTM D5185(m)		**<1**	0	0
Molybdenum	ppm	ASTM D5185(m)		**56**	50	5
Manganese	ppm	ASTM D5185(m)		**0**	<1	0
Magnesium	ppm	ASTM D5185(m)		**942**	848	96
Calcium	ppm	ASTM D5185(m)		**1019**	1156	1926
Phosphorus	ppm	ASTM D5185(m)		**977**	1069	1002
Zinc	ppm	ASTM D5185(m)		**1132**	1161	1105
Sulfur	ppm	ASTM D5185(m)		**2577**	2724	2933
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**3**	3	4
Sodium	ppm	ASTM D5185(m)		**1**	1	2
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	6
Fuel	%	ASTM D7593*	>2.0	▲ **3.1**	▲ 2.7	▲ 3.5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**4.5**	5.5	5.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**17.5**	19.2	21.2

OIL ANALYSIS REPORT

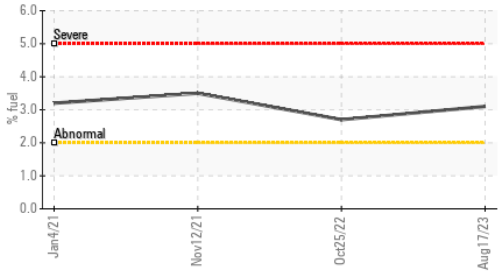
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.2**	14.6	16.2

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

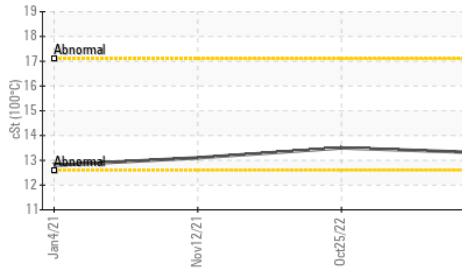
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)		**13.3**	13.5	▲ 13.1

GRAPHS

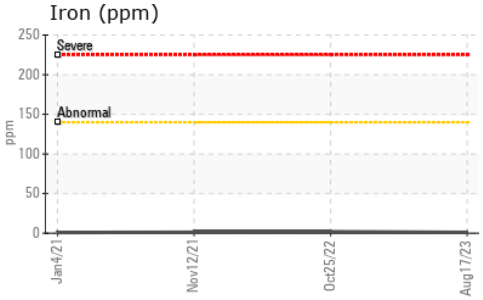
▲ Fuel Dilution



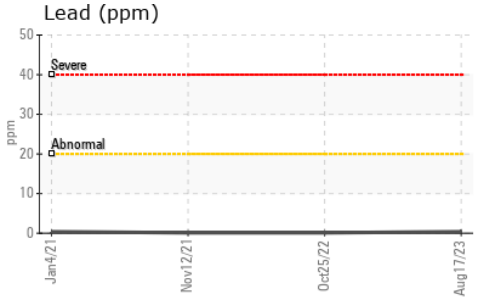
Viscosity @ 100°C



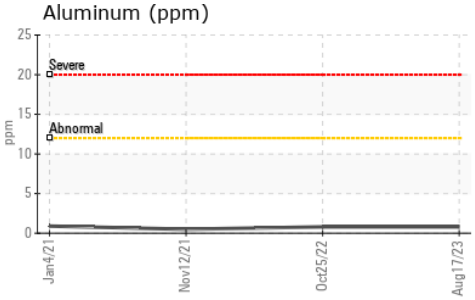
Iron (ppm)



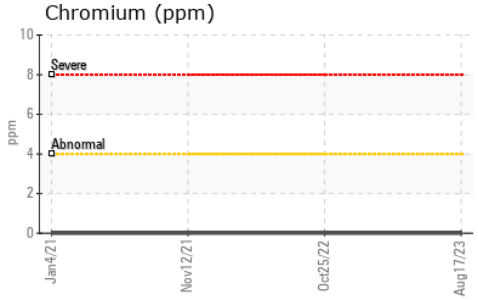
Lead (ppm)



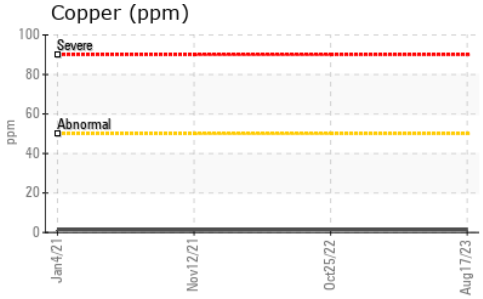
Aluminum (ppm)



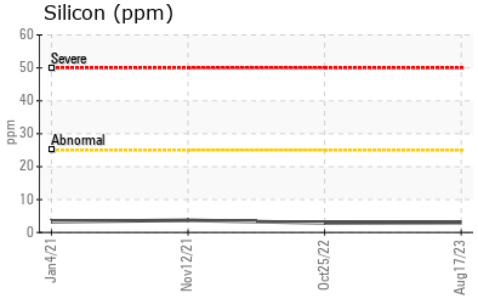
Chromium (ppm)



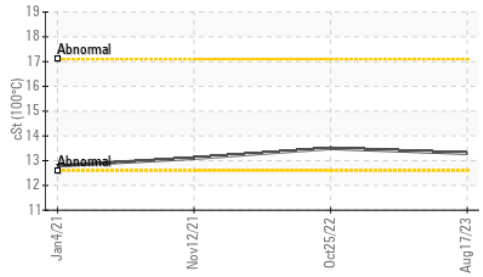
Copper (ppm)



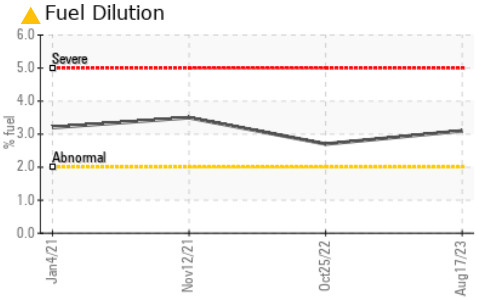
Silicon (ppm)



Viscosity @ 100°C



▲ Fuel Dilution



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WA0020718 **Recieved** : 19 Dec 2023
Lab Number : 02604023 **Diagnosed** : 20 Dec 2023
Unique Number : 5697108 **Diagnostician** : Wes Davis
Test Package : MOB 1 (Additional Tests: PercentFuel)

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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