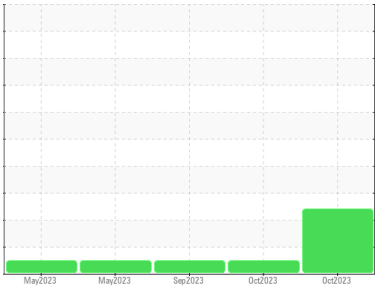
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
BD SHOP
Machine Id
300215
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Aluminum ppm levels are abnormal. A sharp increase in the aluminum level is noted. Piston wear is indicated.

Contamination
There is a trace of moisture present in the oil. Test for glycol is negative.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0864678**	WC0864667	WC0852029
Sample Date		Client Info		**29 Oct 2023**	08 Oct 2023	08 Sep 2023
Machine Age	kms	Client Info		**164489**	154699	139655
Oil Age	kms	Client Info		**46135**	36340	21301
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	**34**	24	18
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	<1
Silver	ppm	ASTM D5185(m)	>3	**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	▲ **21**	17	13
Lead	ppm	ASTM D5185(m)	>40	**<1**	<1	0
Copper	ppm	ASTM D5185(m)	>330	**5**	4	2
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)	2	**4**	4	4
Barium	ppm	ASTM D5185(m)	0	**<1**	<1	0
Molybdenum	ppm	ASTM D5185(m)	50	**71**	63	60
Manganese	ppm	ASTM D5185(m)	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185(m)	950	**1129**	967	978
Calcium	ppm	ASTM D5185(m)	1050	**1248**	1086	1052
Phosphorus	ppm	ASTM D5185(m)	995	**1124**	996	1064
Zinc	ppm	ASTM D5185(m)	1180	**1390**	1189	1171
Sulfur	ppm	ASTM D5185(m)	2600	**2753**	2467	2560
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**10**	9	9
Sodium	ppm	ASTM D5185(m)		**4**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**34**	27	23
Water	%	ASTM D6304*	>0.2	▲ **0.113**	---	0.053
ppm Water	ppm	ASTM D6304*	>2000	▲ **1131.5**	---	535.1
Glycol	%	ASTM D7922*		**0.0**	NEG	0.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.7**	0.5	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**9.0**	7.9	6.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.2**	19.4	19.0

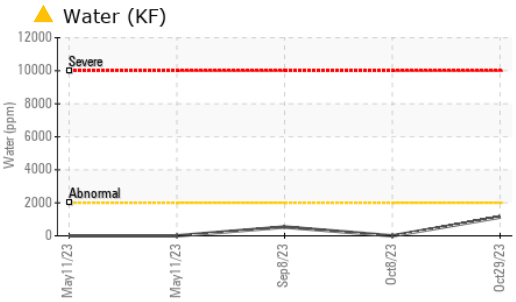
OIL ANALYSIS REPORT

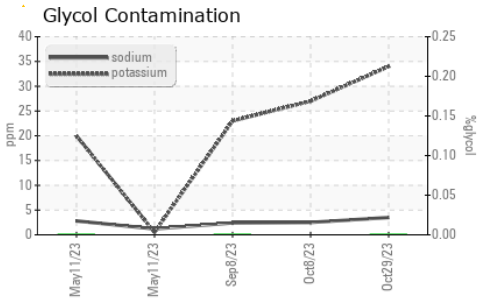
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**15.7**	14.6	14.0
Base Number (BN)	mg KOH/g	ASTM D2896*		**7.57**	9.10	8.95

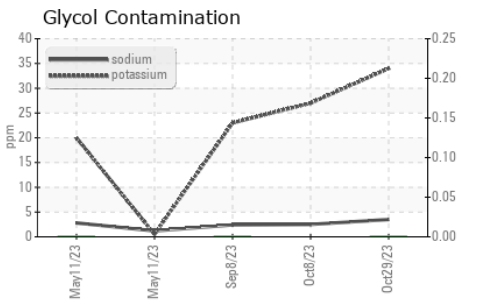
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	▲ **.2%**	NEG	.2%
Free Water	scalar	Visual*		**NEG**	NEG	NEG

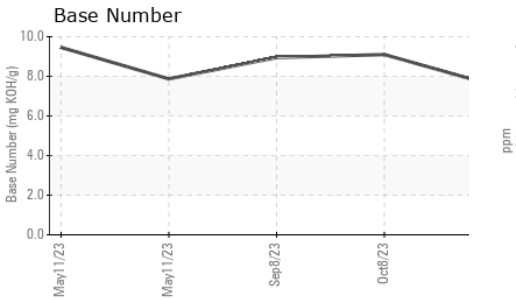
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**11.3**	11.3	11.3

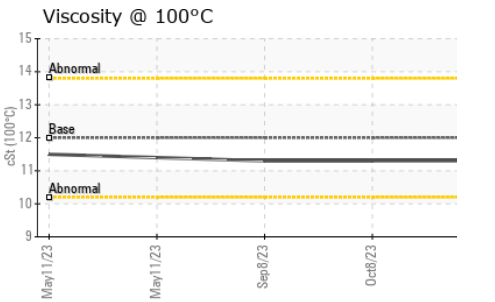
GRAPHS

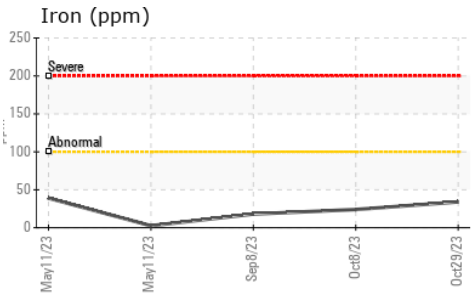


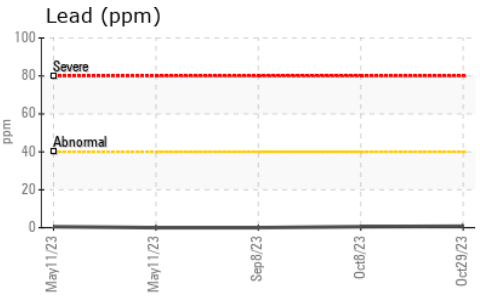


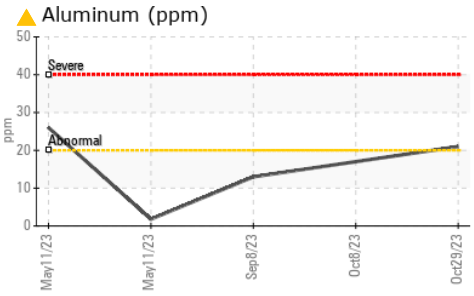


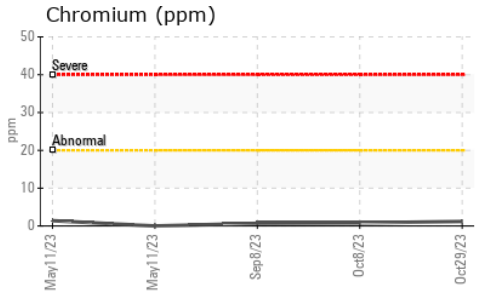


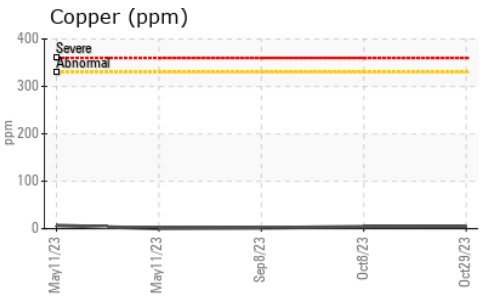


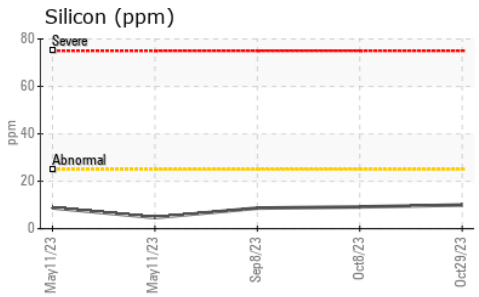


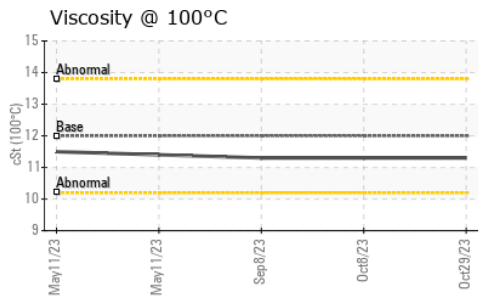


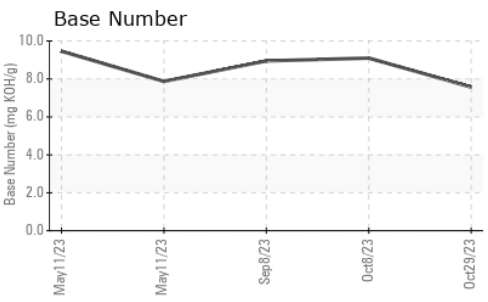












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0864678 **Received** : 31 Oct 2023
Lab Number : 02592894 **Diagnosed** : 01 Nov 2023
Unique Number : 5669973 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (Additional Tests: Glycol, KF)

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.

WFR Technical Services
5389 Riverside Drive
Burlington, ON
CA L7L 3Y1
Contact: William Ridley
wfr.technical.services@gmail.com
T:
F: