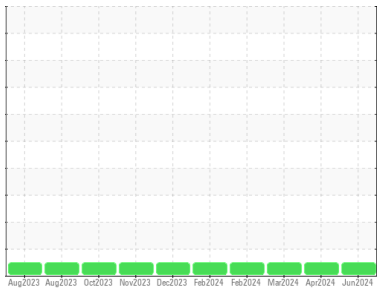
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
BD SHOP
Machine Id
200287
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (40 LTR)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
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 no indication of any contamination 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		**WC0926280**	WC0926303	WC0888908
Sample Date		Client Info		**12 Jun 2024**	05 Apr 2024	16 Mar 2024
Machine Age	kms	Client Info		**209054**	199644	193761
Oil Age	kms	Client Info		**27130**	18520	12637
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	<1.0
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)	>200	**19**	14	12
Chromium	ppm	ASTM D5185(m)	>6	**<1**	<1	<1
Nickel	ppm	ASTM D5185(m)	>3	**0**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**<1**	0	0
Silver	ppm	ASTM D5185(m)	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>50	**4**	4	4
Lead	ppm	ASTM D5185(m)	>10	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>50	**40**	28	25
Tin	ppm	ASTM D5185(m)	>6	**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

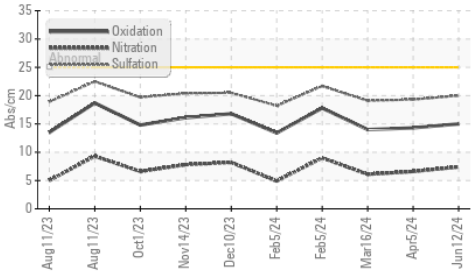
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	2	**4**	5	5
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	50	**61**	59	59
Manganese	ppm	ASTM D5185(m)	0	**<1**	0	0
Magnesium	ppm	ASTM D5185(m)	950	**964**	957	945
Calcium	ppm	ASTM D5185(m)	1050	**1088**	1066	1086
Phosphorus	ppm	ASTM D5185(m)	995	**981**	973	1019
Zinc	ppm	ASTM D5185(m)	1180	**1168**	1168	1145
Sulfur	ppm	ASTM D5185(m)	2600	**2307**	2378	2628
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	**3**	2	3
Sodium	ppm	ASTM D5185(m)		**2**	2	1
Potassium	ppm	ASTM D5185(m)	>20	**8**	7	6

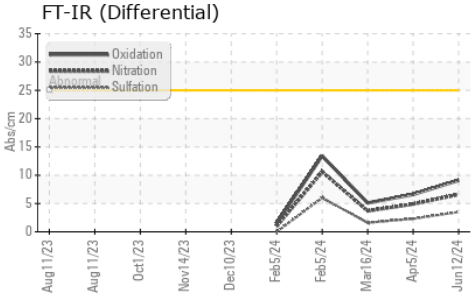
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0.5**	0.4	0.3
Nitration	Abs/cm	ASTM D7624*	>20	**7.4**	6.6	6.1
Nitration(Diff)	Abs/cm	ASTM E2412*	< 25	**6.6**	4.9	3.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.0**	19.3	19.1
Sulfation(Diff)	Abs/cm	ASTM E2412*		**3.5**	2.3	1.6

OIL ANALYSIS REPORT

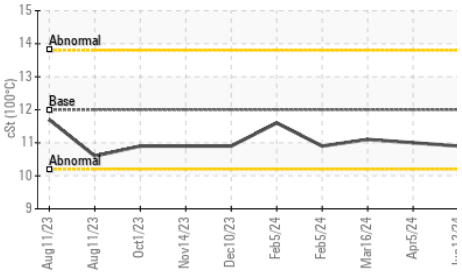
FT-IR (Direct Trend)



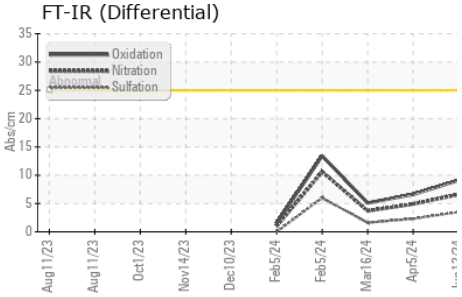
FT-IR (Differential)



Viscosity @ 100°C



FT-IR (Differential)



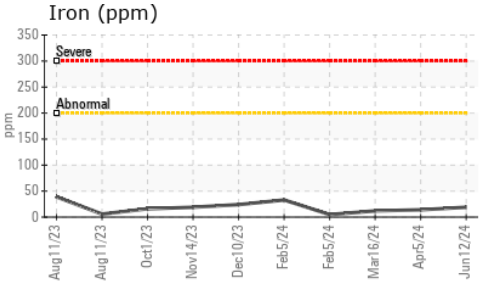
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**15.0**	14.3	14.0
Oxidation(Diff)	Abs/cm	ASTM E2412*	< 25	**9.1**	6.6	5.1
Base Number (BN)	mg KOH/g	ASTM D2896*		**9.67**	9.42	9.90

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

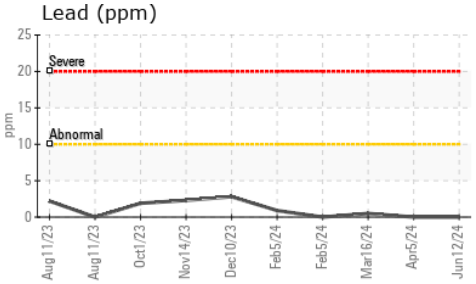
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	**10.9**	11.0	11.1

GRAPHS

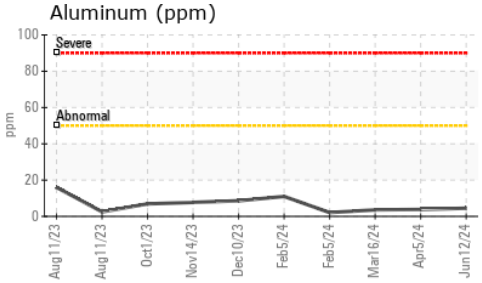
Iron (ppm)



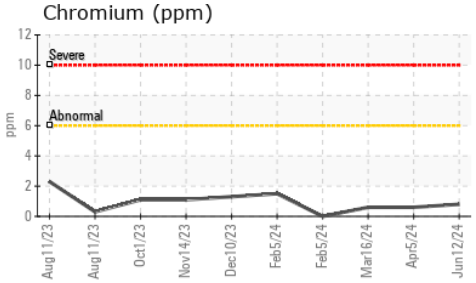
Lead (ppm)



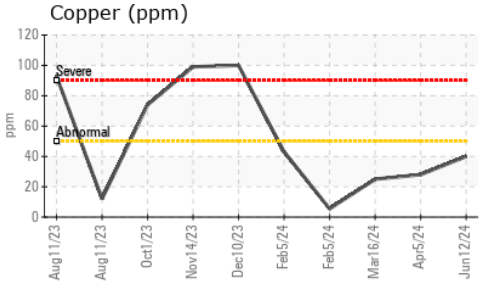
Aluminum (ppm)



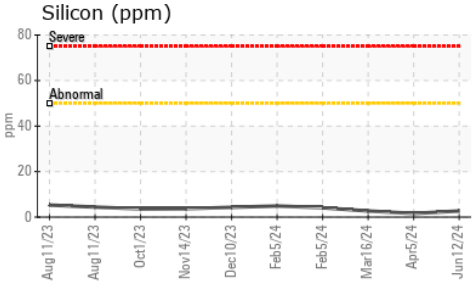
Chromium (ppm)



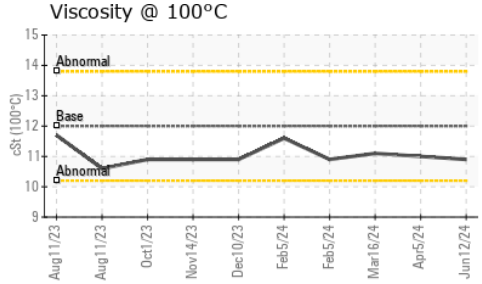
Copper (ppm)



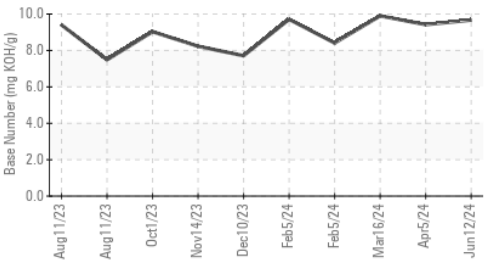
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0926280 **Received** : 13 Jun 2024
Lab Number : 02641597 **Tested** : 14 Jun 2024
Unique Number : 5799136 **Diagnosed** : 14 Jun 2024 - Kevin Marson
Test Package : MOB 2 (Additional Tests: FT-IR(Diff))

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: