KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
EX-11
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

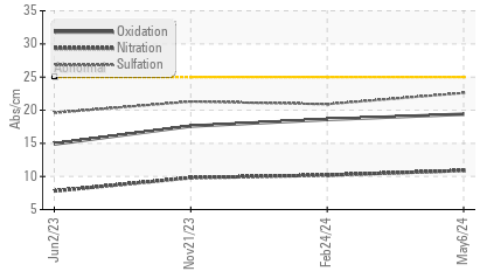
There is no indication of any contamination in the oil.

FLUID CONDITION

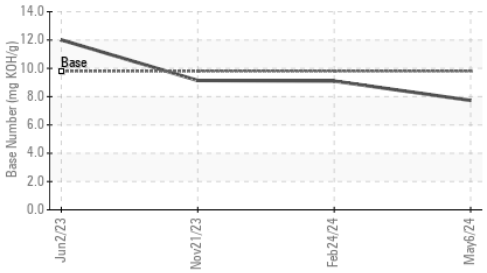
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KFS0006014	KFS0004078	KFS0002898
Sample Date		Client Info		06 May 2024	24 Feb 2024	21 Nov 2023
Machine Age	hrs	Client Info		11971	11534	11022
Oil Age	hrs	Client Info		0	0	11022
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	35	40	22
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	3	3
Lead	ppm	ASTM D5185m	>40	1	2	2
Copper	ppm	ASTM D5185m	>330	27	100	▲ 681
Tin	ppm	ASTM D5185m	>15	1	2	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	13	14	23
Potassium	ppm	ASTM D5185m	>20	2	<1	7
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	10.9	10.2	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	20.9	21.3
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
Sodium	ppm	ASTM D5185m		3	2	3
Boron	ppm	ASTM D5185m		<1	3	27
Barium	ppm	ASTM D5185m		1	0	0
Molybdenum	ppm	ASTM D5185m		59	51	30
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		889	802	435
Calcium	ppm	ASTM D5185m		1075	1103	1469
Phosphorus	ppm	ASTM D5185m		974	885	772
Zinc	ppm	ASTM D5185m		1179	1107	1089
Sulfur	ppm	ASTM D5185m		3138	3899	3332
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.4	18.6	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.73	9.10	9.14
Visc @ 100°C	cSt	ASTM D445	15.6	12.9	12.4	12.5

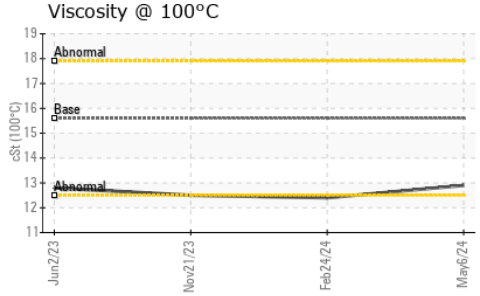
FT-IR (Direct Trend)



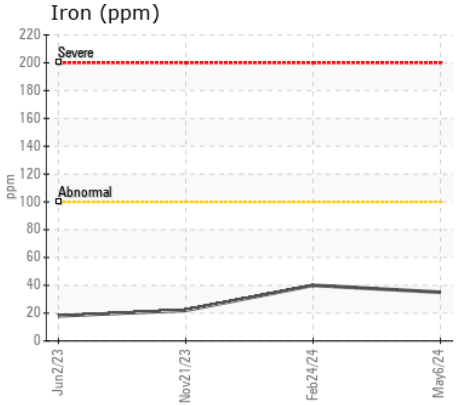
Base Number



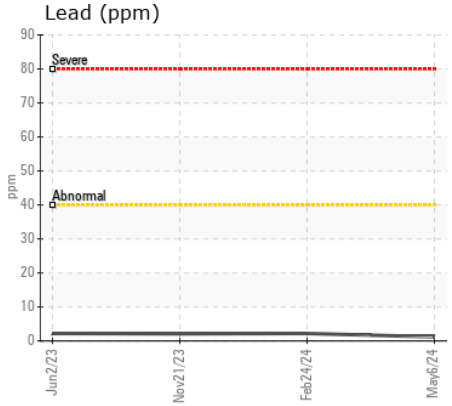
Viscosity @ 100°C



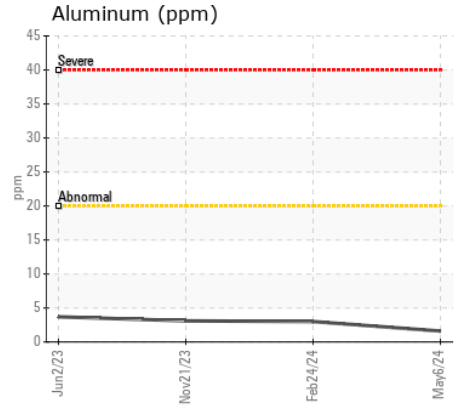
Iron (ppm)



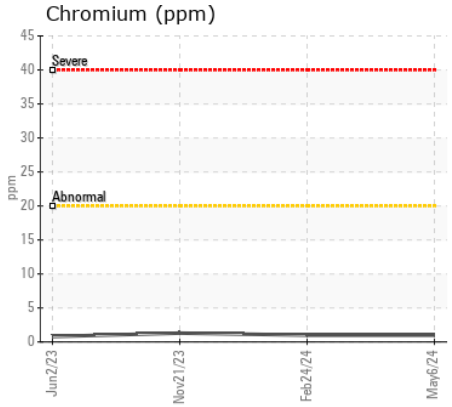
Lead (ppm)



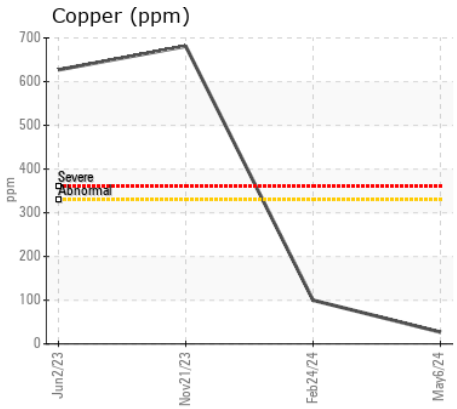
Aluminum (ppm)



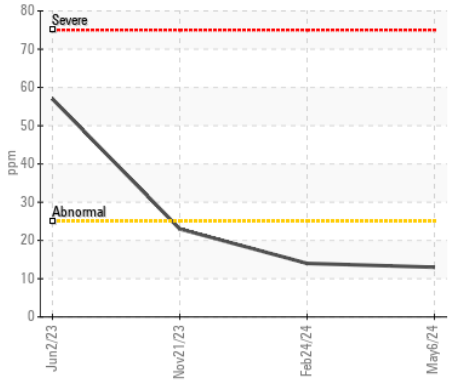
Chromium (ppm)



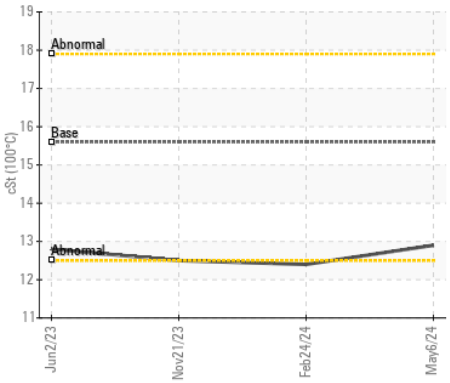
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



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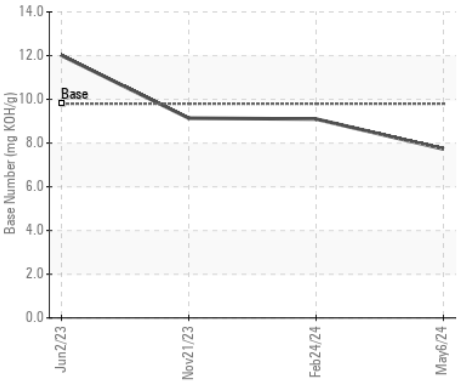

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0006014
Lab Number : 06177888
Unique Number : 11029214
Test Package : MOB 2

Received : 13 May 2024
Tested : 14 May 2024
Diagnosed : 14 May 2024 - Wes Davis

To discuss this sample report, contact Customer Service at 1-800-237-1369.
** - Denotes test methods that are outside of the ISO 17025 scope of accreditation.*
Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

HARNESS LLC
855 N JAMES CAMPBELL BLVD
COLUMBIA, TN
US 38401
Contact: BEN HARNESS
ben@slectharness.com
T: (615)733-4480
F: