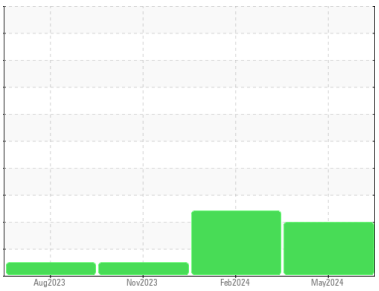
OIL ANALYSIS REPORT

Sample Rating Trend



FUEL

Machine Id
DZ-8
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition
Additive levels indicate the addition of a different brand, or type of oil. 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		**KFS0003902**	KFS0004052	KFS0002900
Sample Date		Client Info		**07 May 2024**	14 Feb 2024	21 Nov 2023
Machine Age	hrs	Client Info		**6880**	6632	6085
Oil Age	hrs	Client Info		**0**	0	6085
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ATTENTION**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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 D5185m	>90	**3**	8	19
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**<1**	2	3
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**0**	0	2
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**42**	2	2
Barium	ppm	ASTM D5185m		**1**	0	0
Molybdenum	ppm	ASTM D5185m		**37**	51	59
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**447**	809	892
Calcium	ppm	ASTM D5185m		**1550**	1043	1028
Phosphorus	ppm	ASTM D5185m		**1009**	899	863
Zinc	ppm	ASTM D5185m		**1160**	1121	1178
Sulfur	ppm	ASTM D5185m		**3497**	3074	3087

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	3	7
Sodium	ppm	ASTM D5185m		**3**	1	<1
Potassium	ppm	ASTM D5185m	>20	**1**	0	1
Fuel	%	ASTM D3524	>3.0	**2.5**	6.7	<1.0

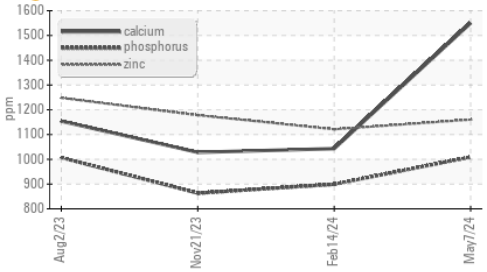
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.6**	0.7	0.9
Nitration	Abs/cm	*ASTM D7624	>20	**8.5**	8.8	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.0**	19.8	21.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.6**	16.3	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.45**	9.31	10.49

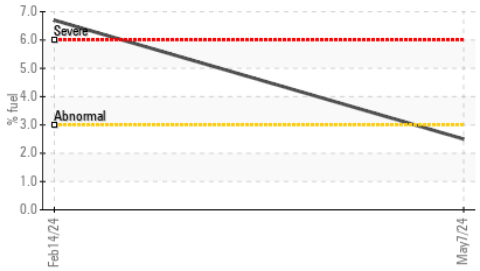
KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

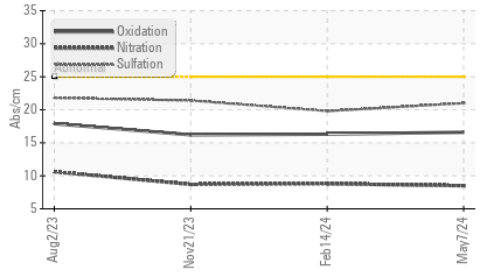
Additives



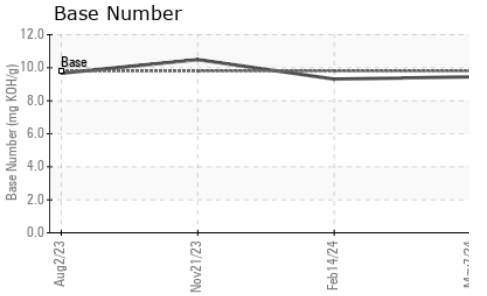
Fuel Dilution



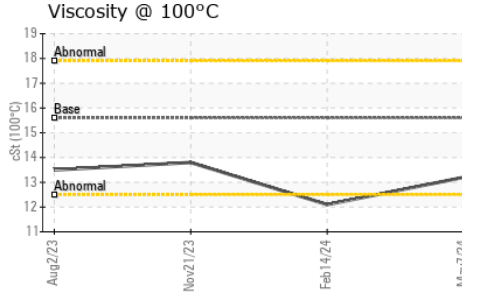
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

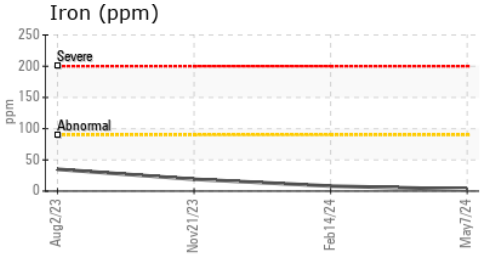


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

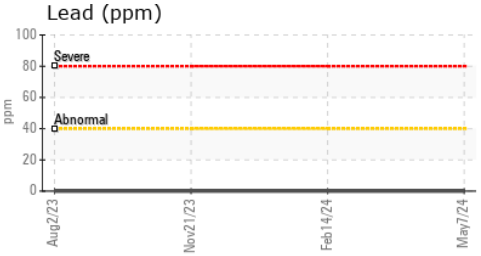
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	**13.2**	▲ 12.1	13.8

GRAPHS

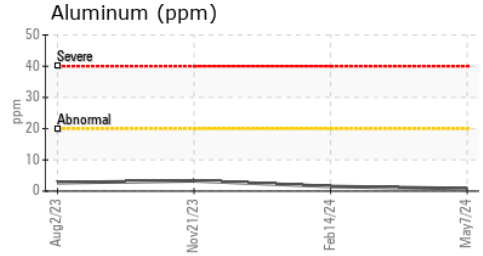
Iron (ppm)



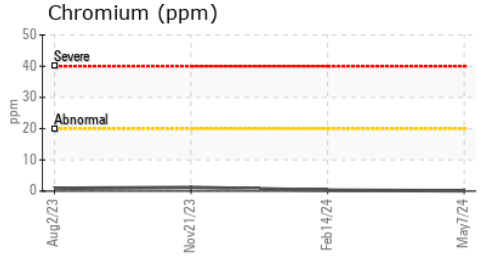
Lead (ppm)



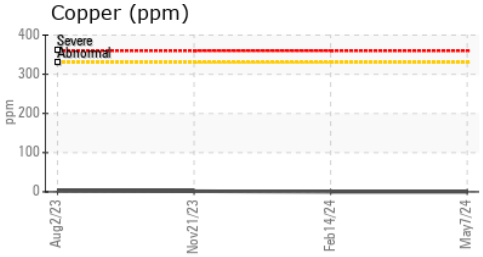
Aluminum (ppm)



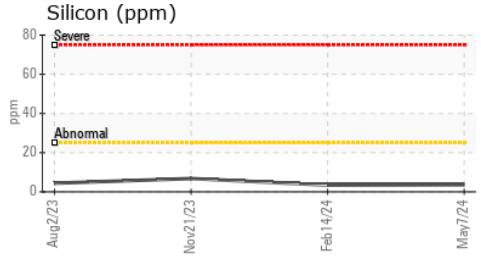
Chromium (ppm)



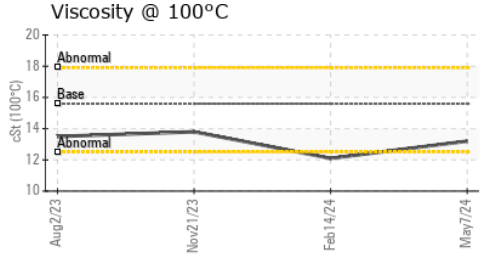
Copper (ppm)



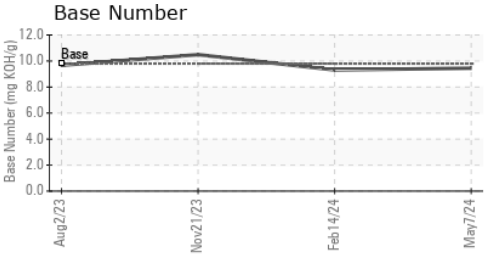
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0003902 **Received** : 13 May 2024
Lab Number : 06177884 **Tested** : 16 May 2024
Unique Number : 11029210 **Diagnosed** : 16 May 2024 - Wes Davis
Test Package : MOB 2 (Additional Tests: PercentFuel)

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)

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Report Id: HARCOLTN [WUSCAR] 06177884 (Generated: 05/16/2024 16:55:19) Rev: 1

Submitted By: BILL ENYART