TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
KENWORTH T-880 27 (S/N MJ446319)
Component
Diesel Engine
Fluid
TRC PRO-SPEC III SYNTHETIC BLEND 15W40 (10 GAL)

RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

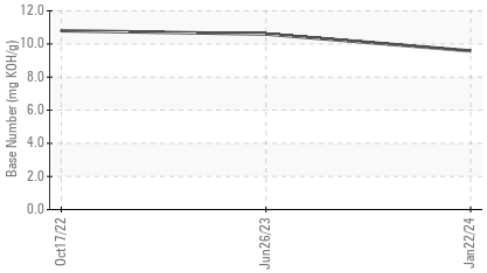
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

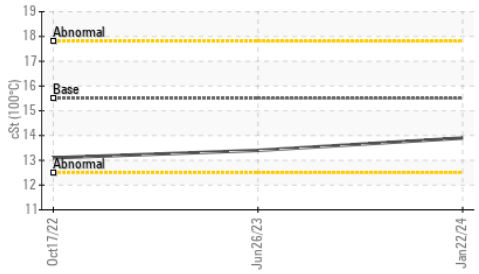
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06101160	TR05888467	TR05687403
Sample Date		Client Info		22 Jan 2024	26 Jun 2023	17 Oct 2022
Machine Age	mls	Client Info		76105	61213	44864
Oil Age	mls	Client Info		45439	30547	14198
Filter Age	mls	Client Info		14892	16349	14198
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>90	60	63	40
Chromium	ppm	ASTM D5185m	>20	7	7	4
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	22	22	18
Lead	ppm	ASTM D5185m	>40	12	3	3
Copper	ppm	ASTM D5185m	>330	5	6	7
Tin	ppm	ASTM D5185m	>15	2	3	2
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	12	14	14
Potassium	ppm	ASTM D5185m	>20	62	73	68
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
Soot %	%	*ASTM D7844	>6	0.8	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	15.6	12.6	11.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.2	28.9	25.1
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		4	10	6
Boron	ppm	ASTM D5185m		53	88	135
Barium	ppm	ASTM D5185m		<1	<1	0
Molybdenum	ppm	ASTM D5185m		189	202	192
Manganese	ppm	ASTM D5185m		2	2	2
Magnesium	ppm	ASTM D5185m		481	505	466
Calcium	ppm	ASTM D5185m		3791	4142	3817
Phosphorus	ppm	ASTM D5185m		822	934	867
Zinc	ppm	ASTM D5185m		1047	1109	1003
Sulfur	ppm	ASTM D5185m		3421	4537	4327
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.5	19.2	15.8
Base Number (BN)	mg KOH/g	ASTM D2896		9.58	10.60	10.8
Visc @ 100°C	cSt	ASTM D445	15.5	13.9	13.4	13.1

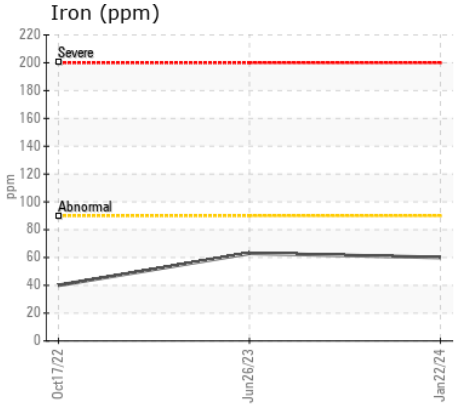
Base Number



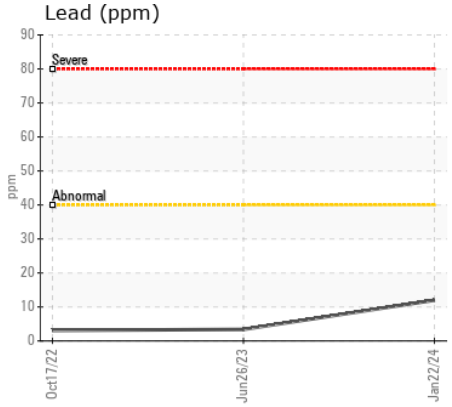
Viscosity @ 100°C



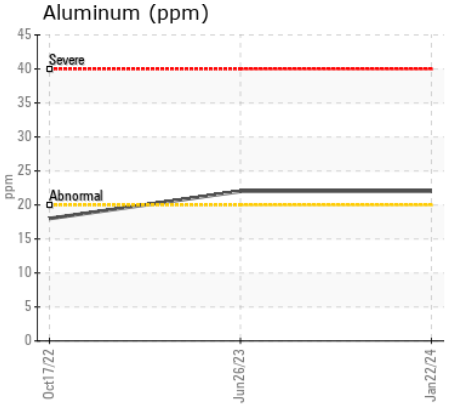
Iron (ppm)



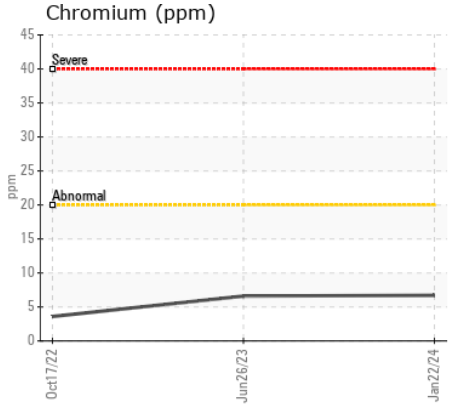
Lead (ppm)



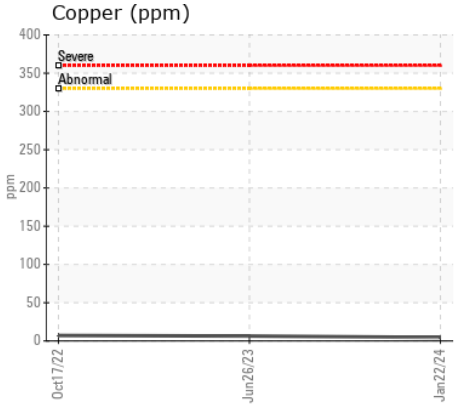
Aluminum (ppm)



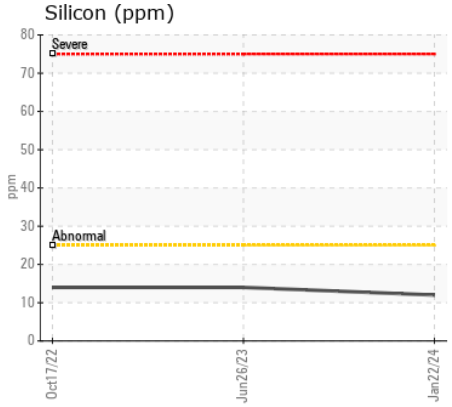
Chromium (ppm)



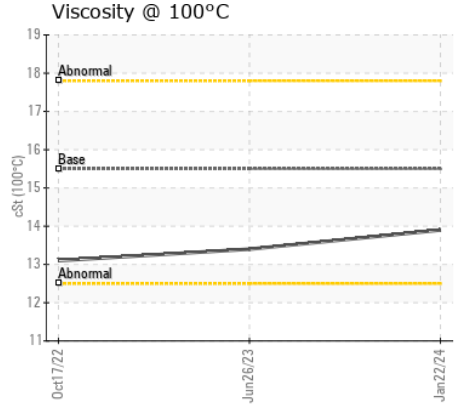
Copper (ppm)



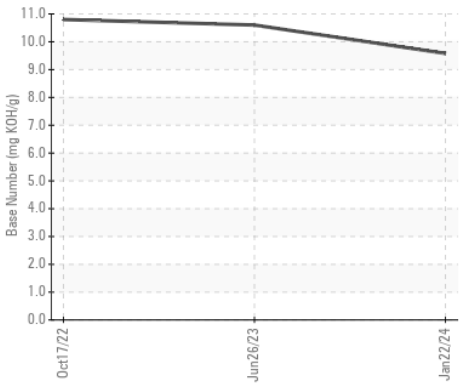
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06101160
Lab Number : 06101160
Unique Number : 10899390
Test Package : MOB 2

Received : 26 Feb 2024
Tested : 28 Feb 2024
Diagnosed : 28 Feb 2024 - Sean Felton

To discuss this sample report, contact Customer Service at 1-800-827-0711.
** - 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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