TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
KENWORTH 411
Component
Diesel Engine
Fluid
TRC PRO-SPEC IV XP SYN BLEND 15W40 (44 LTR)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

Metal levels are typical for a new component breaking in.

CONTAMINATION

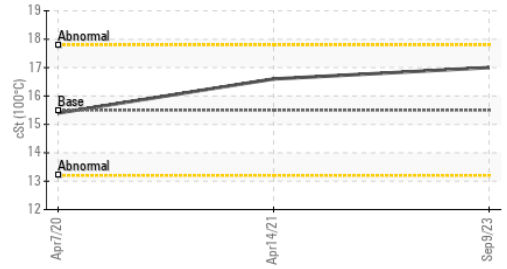
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

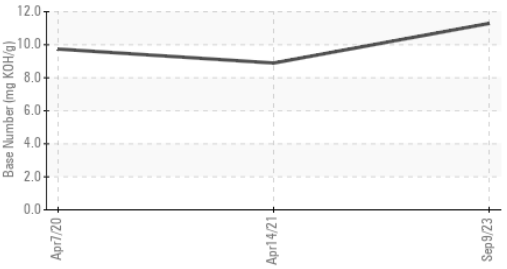
The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within SAE 50 range, advise investigate. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR02608858	TR02441038	TR02349880
Sample Date		Client Info		09 Sep 2023	14 Apr 2021	07 Apr 2020
Machine Age	hrs	Client Info		19062	15146	13065
Oil Age	hrs	Client Info		730	400	473
Filter Age	hrs	Client Info		730	400	473
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>165	40	28	18
Chromium	ppm	ASTM D5185(m)	>5	6	1	1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	1	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	6	2	2
Lead	ppm	ASTM D5185(m)	>150	3	20	8
Copper	ppm	ASTM D5185(m)	>90	4	1	<1
Tin	ppm	ASTM D5185(m)	>5	1	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon	ppm	ASTM D5185(m)	>35	22	7	6
Potassium	ppm	ASTM D5185(m)	>20	17	2	1
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*	>7.5	2.1	1.1	0.4
Nitration	Abs/cm	ASTM D7624*	>20	11.2	14.0	11.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	27.9	33.5	29.1
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185(m)		6	2	2
Boron	ppm	ASTM D5185(m)		<1	2	2
Barium	ppm	ASTM D5185(m)		0	0	<1
Molybdenum	ppm	ASTM D5185(m)		<1	1	<1
Manganese	ppm	ASTM D5185(m)		1	<1	<1
Magnesium	ppm	ASTM D5185(m)		19	16	23
Calcium	ppm	ASTM D5185(m)		4311	2982	4832
Phosphorus	ppm	ASTM D5185(m)		930	659	979
Zinc	ppm	ASTM D5185(m)		1072	730	1153
Sulfur	ppm	ASTM D5185(m)		3439	2236	3742
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.0	22.1	15.9
Base Number (BN)	mg KOH/g	ASTM D2896*		11.29	8.89	9.74
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	▲ 17.0	16.6	15.4

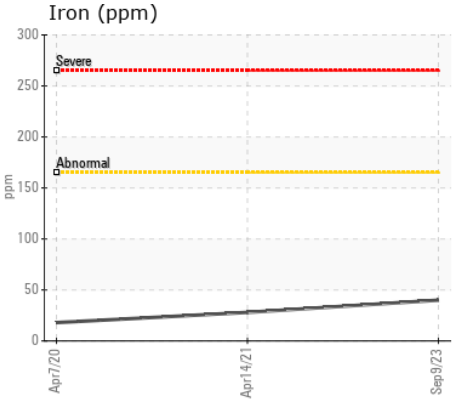
Viscosity @ 100°C



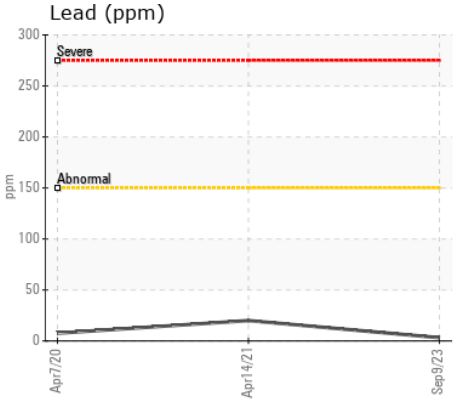
Base Number



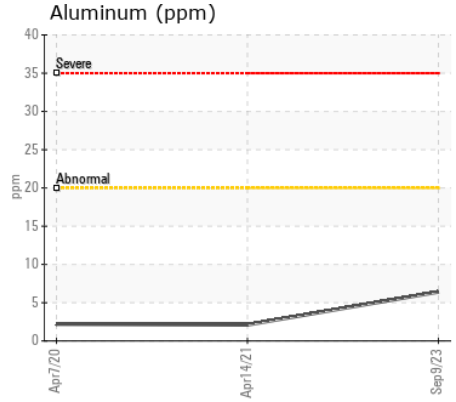
Iron (ppm)



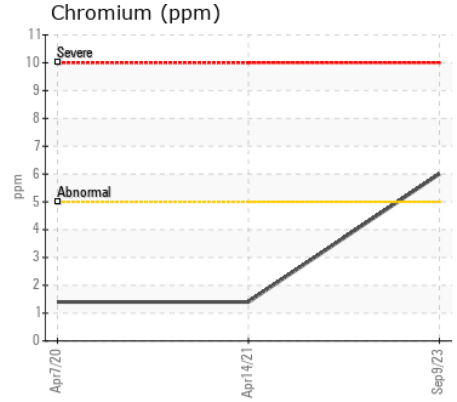
Lead (ppm)



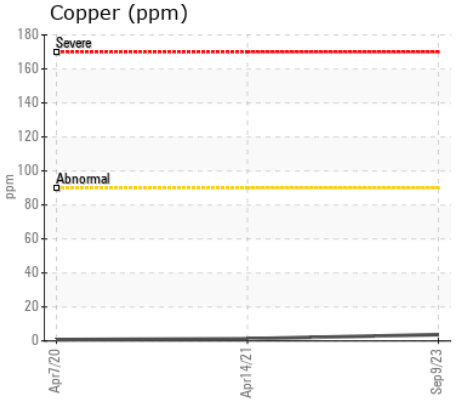
Aluminum (ppm)



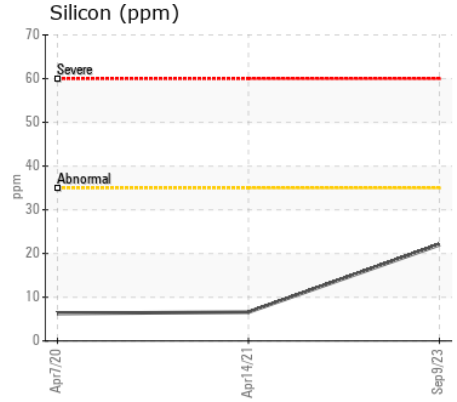
Chromium (ppm)



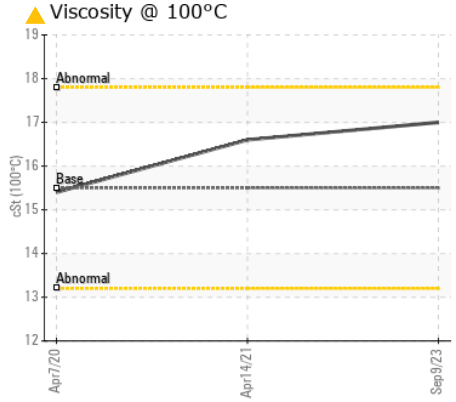
Copper (ppm)



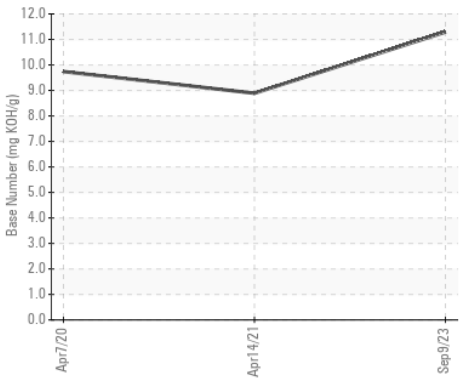
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory	: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9		
Sample No.	: TR02608858	**Recieved**	: 16 Jan 2024
Lab Number	: 02608858	**Diagnosed**	: 17 Jan 2024
Unique Number	: 5709944	**Diagnostician**	: Kevin Marson
Test Package	: MOB 2		

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)

GARDEN PLANE COLONY
BOX # 399
FRONTIER, SK
CA S0N 0W0
Contact: David Hofer

T: (306)296-4472
F: (306)296-4476