TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
3 (S/N 6692)
Component
Diesel Engine
Fluid
TRC MOLY XL PRO-SPEC IV HD SYN 5W40 (10 GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

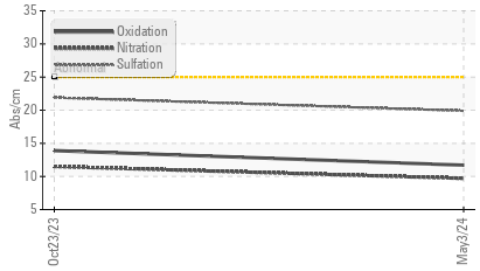
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

FLUID CONDITION

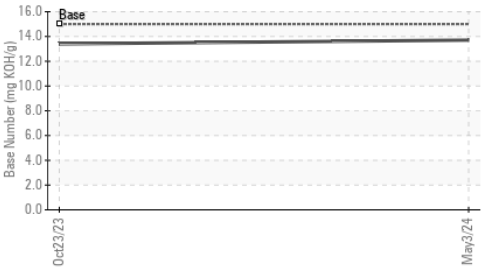
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06196888	TR05993799	---
Sample Date		Client Info		03 May 2024	23 Oct 2023	---
Machine Age	hrs	Client Info		1057	1037	---
Oil Age	hrs	Client Info		538	518	---
Filter Age	hrs	Client Info		538	518	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Not Changd	Not Changd	---
Sample Status				NORMAL	NORMAL	---
Iron	ppm	ASTM D5185m	>165	60	69	---
Chromium	ppm	ASTM D5185m	>5	5	5	---
Nickel	ppm	ASTM D5185m	>4	<1	<1	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	<1	<1	---
Aluminum	ppm	ASTM D5185m	>20	17	21	---
Lead	ppm	ASTM D5185m	>150	2	<1	---
Copper	ppm	ASTM D5185m	>90	37	48	---
Tin	ppm	ASTM D5185m	>5	2	3	---
Vanadium	ppm	ASTM D5185m		<1	<1	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Silicon	ppm	ASTM D5185m	>35	14	16	---
Potassium	ppm	ASTM D5185m	>20	70	84	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol	%	*ASTM D2982		NEG	NEG	---
Soot %	%	*ASTM D7844	>7.5	0.3	0.8	---
Nitration	Abs/cm	*ASTM D7624	>20	9.7	11.5	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.9	21.9	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---
Sodium	ppm	ASTM D5185m		6	7	---
Boron	ppm	ASTM D5185m		15	20	---
Barium	ppm	ASTM D5185m		2	20	---
Molybdenum	ppm	ASTM D5185m		126	158	---
Manganese	ppm	ASTM D5185m		1	2	---
Magnesium	ppm	ASTM D5185m		25	30	---
Calcium	ppm	ASTM D5185m	4500	4651	5777	---
Phosphorus	ppm	ASTM D5185m		944	1039	---
Zinc	ppm	ASTM D5185m	1200	1032	1226	---
Sulfur	ppm	ASTM D5185m		4628	6848	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.7	13.9	---
Base Number (BN)	mg KOH/g	ASTM D2896	15	13.71	13.40	---
Visc @ 100°C	cSt	ASTM D445	15	12.9	13.0	---

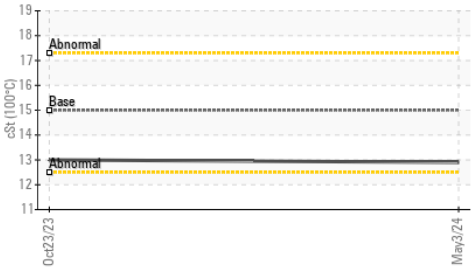
FT-IR (Direct Trend)



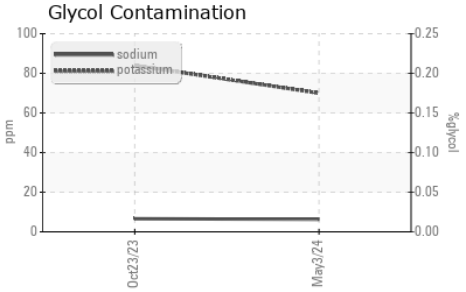
Base Number



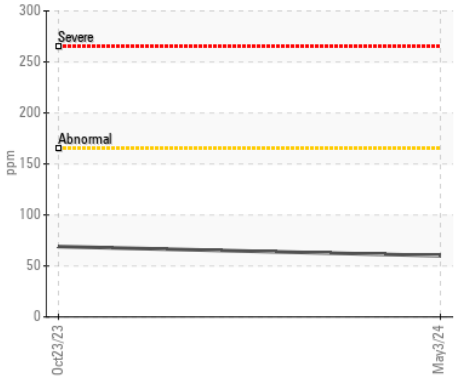
Viscosity @ 100°C



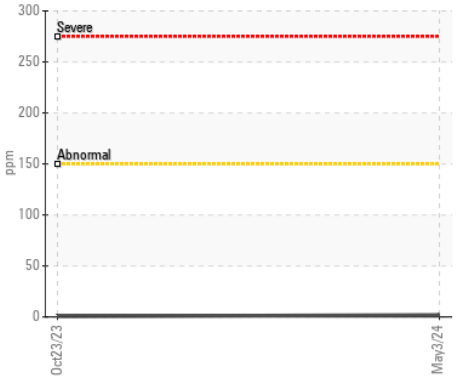
Glycol Contamination



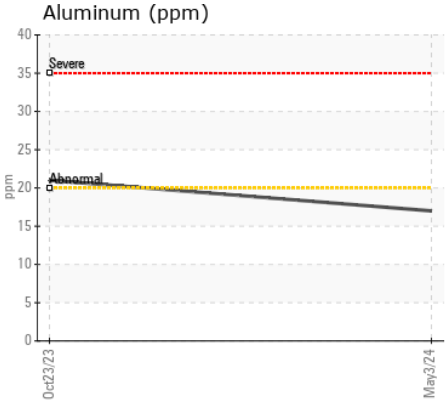
Iron (ppm)



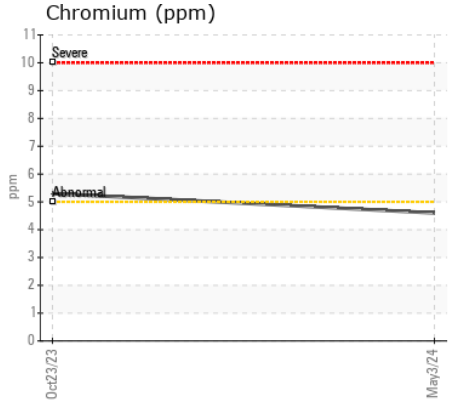
Lead (ppm)



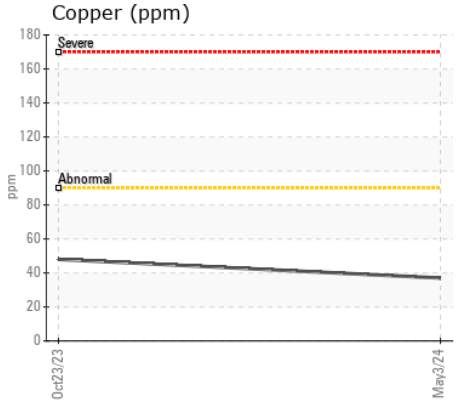
Aluminum (ppm)



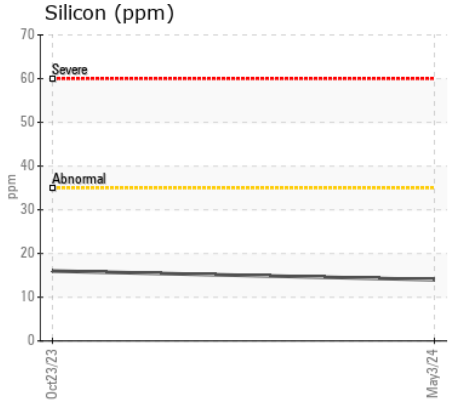
Chromium (ppm)



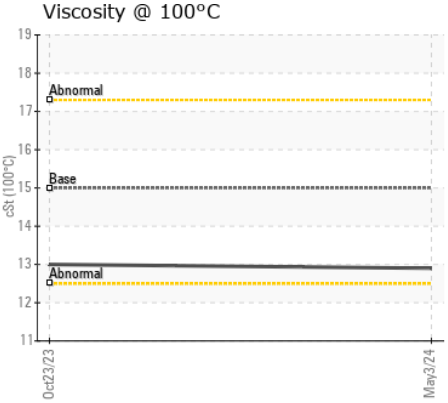
Copper (ppm)



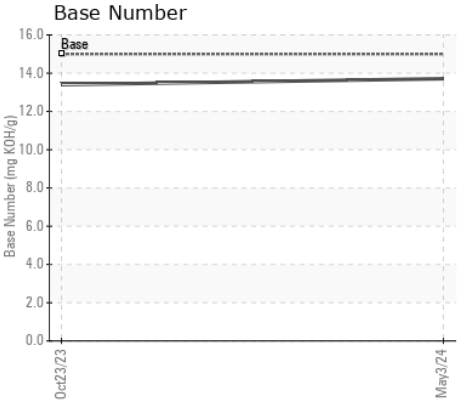
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06196888
Lab Number : 06196888
Unique Number : 11059011
Test Package : MOB 2 (Additional Tests: Glycol)

Received : 31 May 2024
Tested : 03 Jun 2024
Diagnosed : 03 Jun 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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T:
F: