



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**KENWORTH T880 23 (S/N 1NKIZX4EX4LJ402469)**

Component  
**Diesel Engine**

Fluid  
**TRC MOLY XL PRO-SPEC IV XP 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06086731	TR06021109	---
Sample Date		Client Info		03 Feb 2024	21 Oct 2023	---
Machine Age	mls	Client Info		215000	205000	---
Oil Age	mls	Client Info		20000	10000	---
Filter Age	mls	Client Info		10000	10000	---
Oil Changed		Client Info		Not Changd	Not Changd	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				NORMAL	NORMAL	---

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	22	16	---
Chromium	ppm	ASTM D5185m	>20	2	2	---
Nickel	ppm	ASTM D5185m	>2	0	0	---
Titanium	ppm	ASTM D5185m	>2	4	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>20	11	8	---
Lead	ppm	ASTM D5185m	>40	2	<1	---
Copper	ppm	ASTM D5185m	>330	<1	<1	---
Tin	ppm	ASTM D5185m	>15	2	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

**CONTAMINATION**

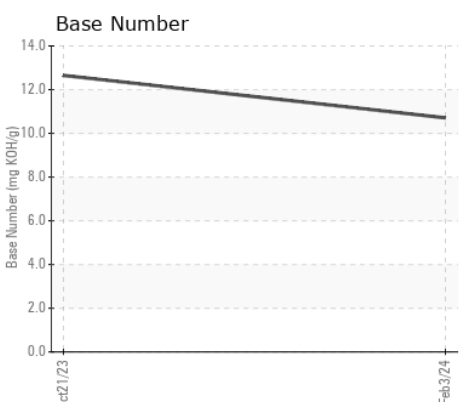
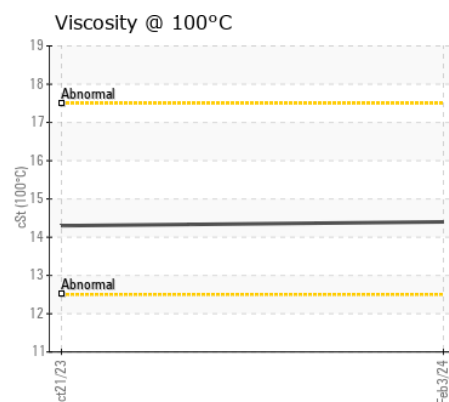
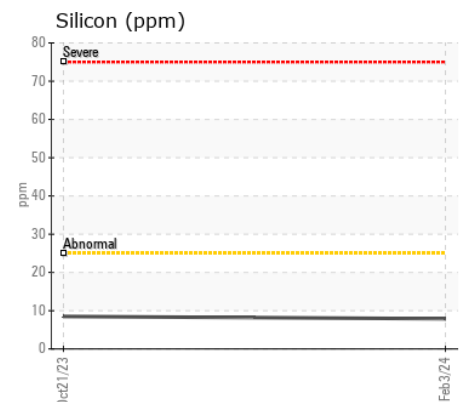
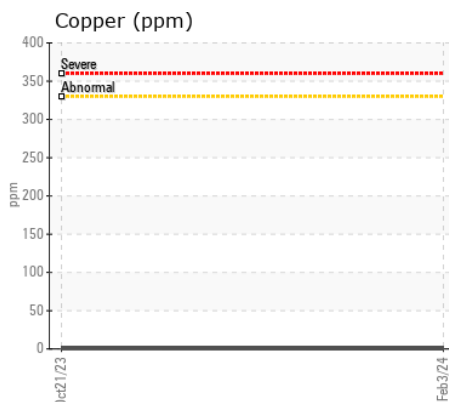
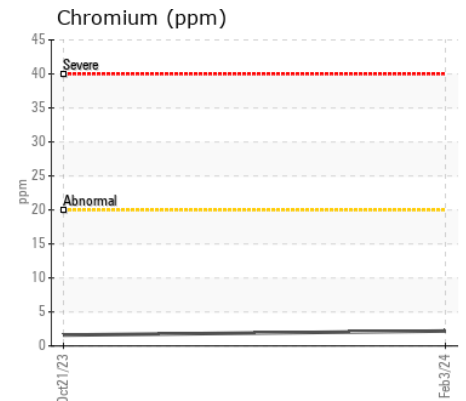
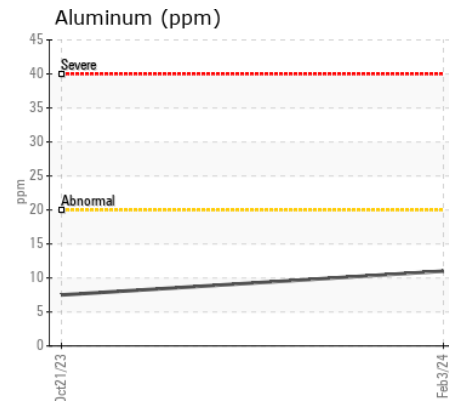
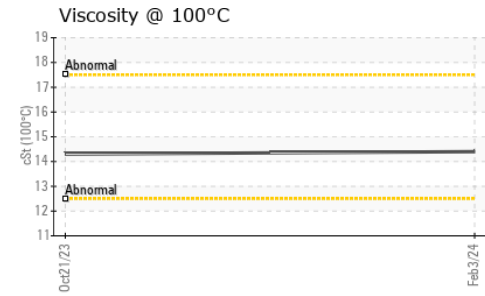
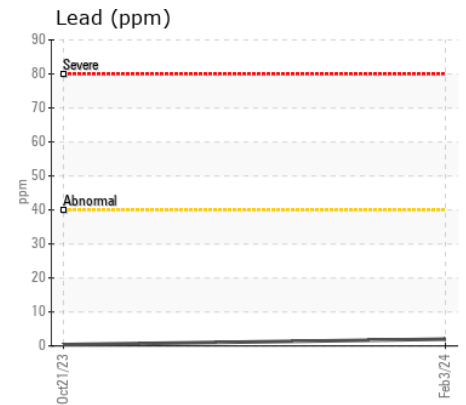
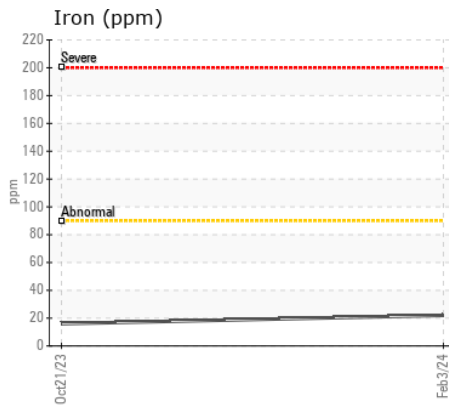
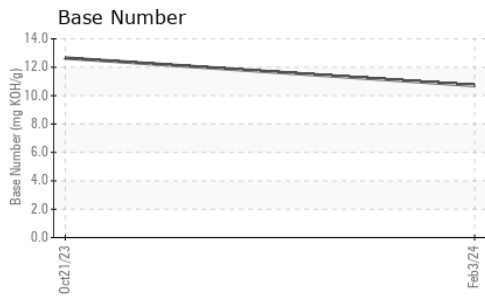
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	8	---
Potassium	ppm	ASTM D5185m	>20	16	11	---
Fuel		WC Method	>3.0	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>6	0.3	0.3	---
Nitration	Abs/cm	*ASTM D7624	>20	12.4	10.6	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	26.1	22.0	---
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	---

**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.

Sodium	ppm	ASTM D5185m		5	3	---
Boron	ppm	ASTM D5185m		17	10	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		121	123	---
Manganese	ppm	ASTM D5185m		<1	<1	---
Magnesium	ppm	ASTM D5185m		100	90	---
Calcium	ppm	ASTM D5185m		4071	3765	---
Phosphorus	ppm	ASTM D5185m		826	798	---
Zinc	ppm	ASTM D5185m		1049	980	---
Sulfur	ppm	ASTM D5185m		3701	3797	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.8	12.9	---
Base Number (BN)	mg KOH/g	ASTM D2896		10.71	12.65	---
Visc @ 100°C	cSt	ASTM D445		14.4	14.3	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06086731 **Received** : 12 Feb 2024  
**Lab Number** : 06086731 **Tested** : 13 Feb 2024  
**Unique Number** : 10874176 **Diagnosed** : 13 Feb 2024 - Wes Davis  
**Test Package** : MOB 2

**RUNDELL INC**  
 2465 STATE HWY 38  
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 US 97435  
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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)