



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**KENWORTH 4 - KENWORTH**

Component  
**Diesel Engine**

Fluid  
**TRC MOLY XL PRO-SPEC IV XP 15W40 (11 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06057472	TR06018429	TR05970941
Sample Date		Client Info		06 Jan 2024	18 Nov 2023	30 Sep 2023
Machine Age	mls	Client Info		69845	60320	50580
Oil Age	mls	Client Info		30330	20805	11065
Filter Age	mls	Client Info		30330	20805	11065
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	50	34	23
Chromium	ppm	ASTM D5185m	>20	3	2	2
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	14	10	<1
Lead	ppm	ASTM D5185m	>40	3	2	1
Copper	ppm	ASTM D5185m	>330	6	5	3
Tin	ppm	ASTM D5185m	>15	2	2	1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

**CONTAMINATION**

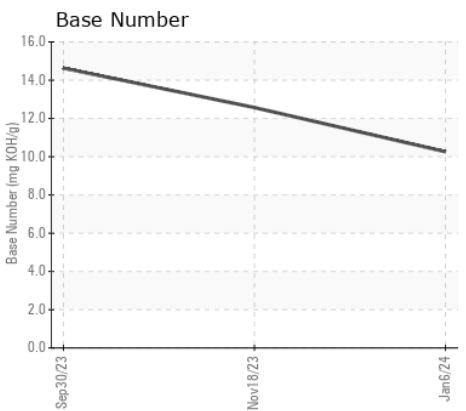
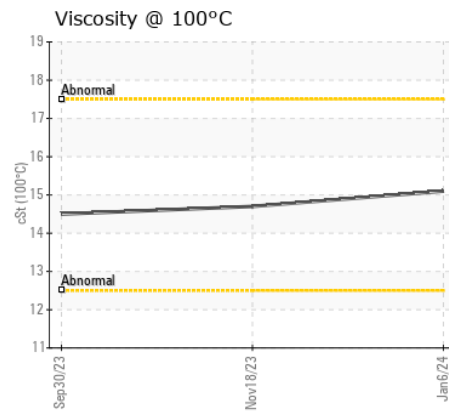
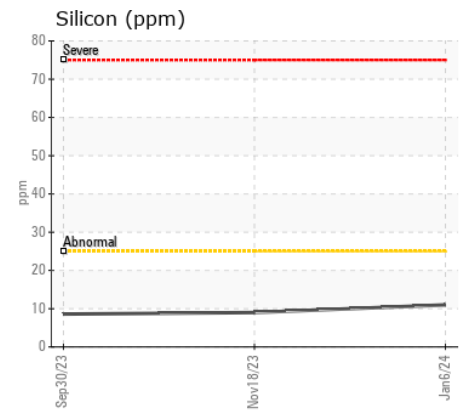
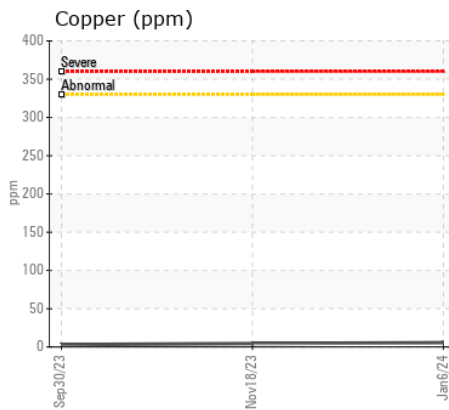
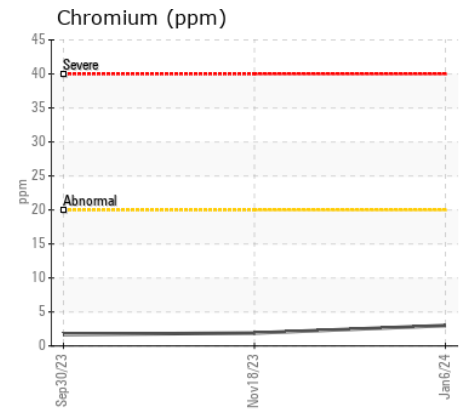
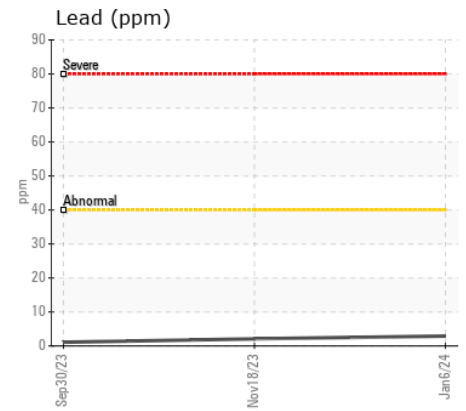
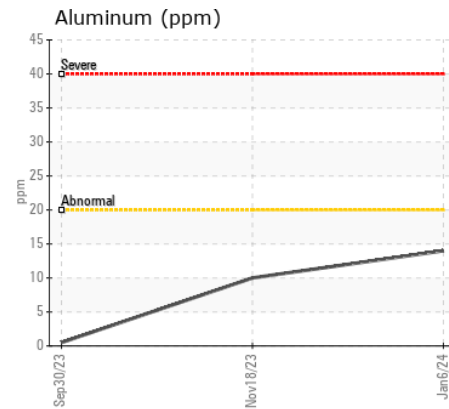
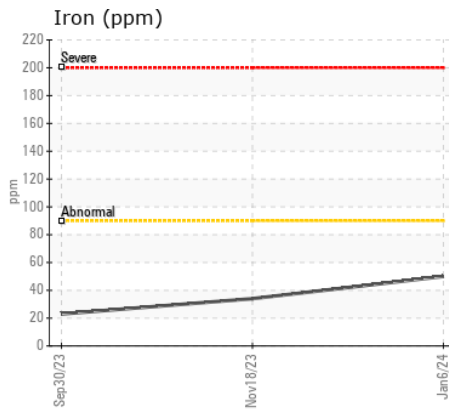
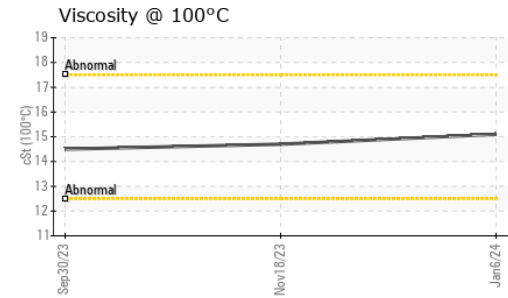
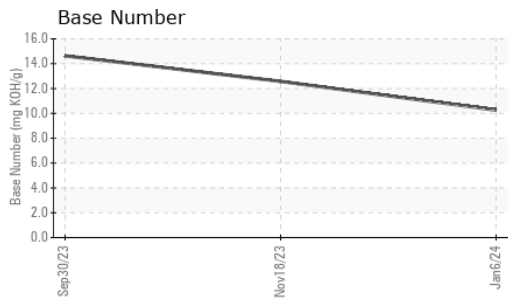
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	11	9	9
Potassium	ppm	ASTM D5185m	>20	51	33	21
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	0.7	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	14.4	12.3	9.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.8	24.4	18.8
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

**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		0	3	0
Boron	ppm	ASTM D5185m		4	5	7
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		19	13	9
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		140	148	169
Calcium	ppm	ASTM D5185m		4017	3824	3890
Phosphorus	ppm	ASTM D5185m		896	917	1047
Zinc	ppm	ASTM D5185m		1058	1048	1388
Sulfur	ppm	ASTM D5185m		4011	3784	7294
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	14.9	11.6
Base Number (BN)	mg KOH/g	ASTM D2896		10.26	12.57	14.63
Visc @ 100°C	cSt	ASTM D445		15.1	14.7	14.5



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06057472 **Received** : 10 Jan 2024  
**Lab Number** : 06057472 **Diagnosed** : 12 Jan 2024  
**Unique Number** : 10823421 **Diagnostician** : Sean Felton  
**Test Package** : MOB 2

**VAUGHN TRUCKING**  
 90911 LEWIS AND CLARK RD  
 ASTORIA, OR  
 US 97103  
 Contact: JEFF WARREN

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)

T:  
F: