



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**KENWORTH W900 2020 120 KW W900**

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		<b>TR0000956</b>	TR0000952	TR0000946
Sample Date		Client Info		<b>02 Jul 2024</b>	03 May 2024	05 Apr 2024
Machine Age	mls	Client Info		<b>532707</b>	497607	472311
Oil Age	mls	Client Info		<b>63150</b>	46785	472311
Filter Age	mls	Client Info		<b>0</b>	25296	22240
Oil Changed		Client Info		<b>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>77</b>	55	30
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	3	2
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>10</b>	10	8
Lead	ppm	ASTM D5185m	>40	<b>10</b>	8	3
Copper	ppm	ASTM D5185m	>330	<b>4</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>2</b>	2	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

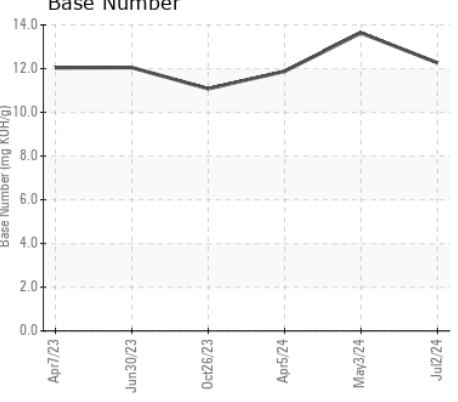
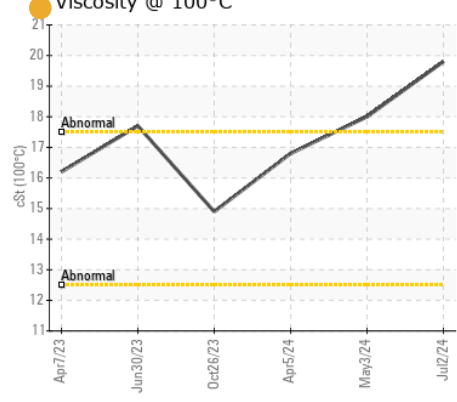
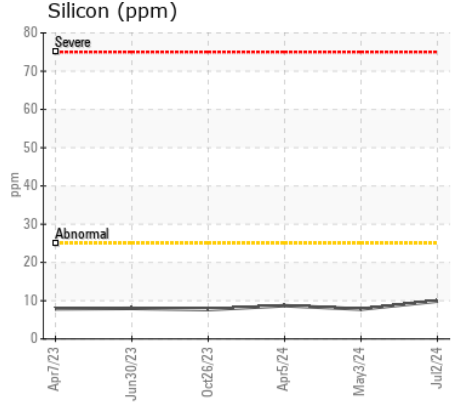
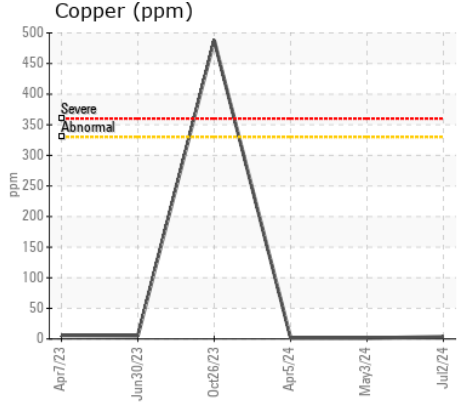
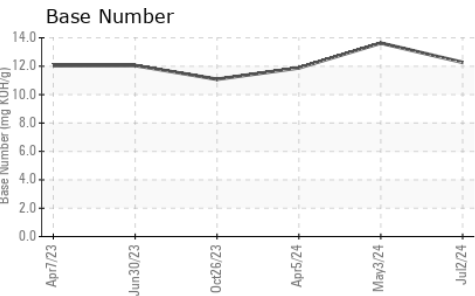
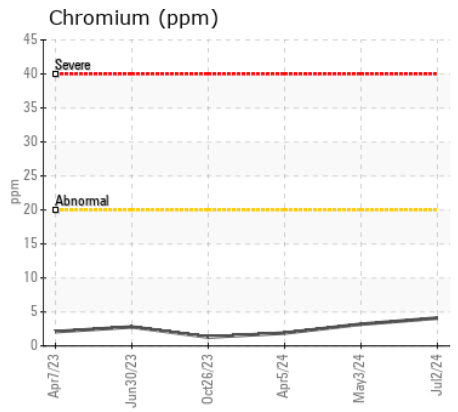
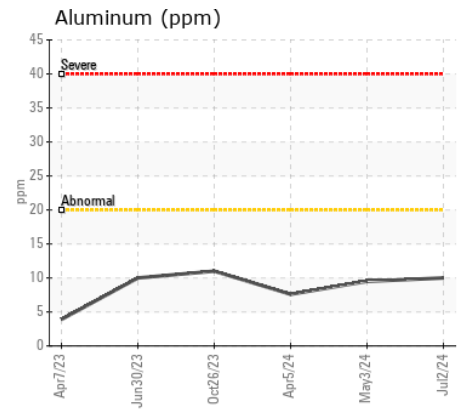
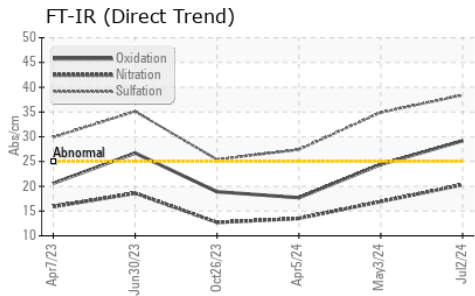
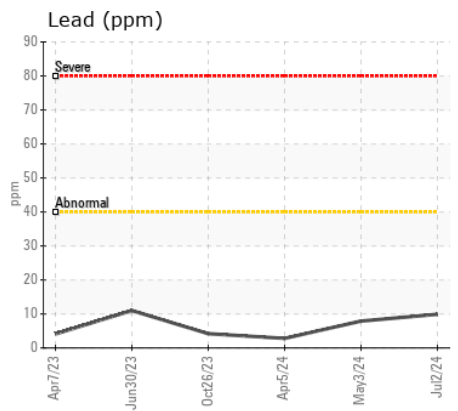
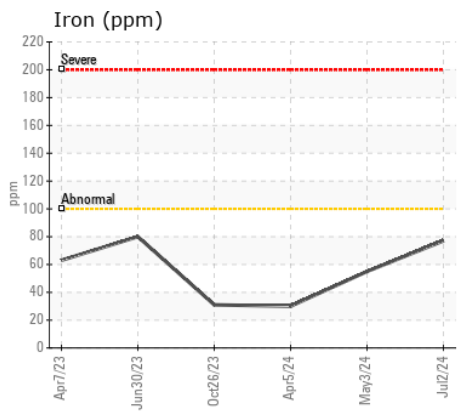
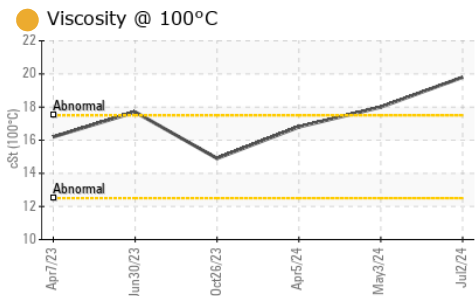
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>10</b>	8	9
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.6</b>	1.1	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>20.3</b>	16.9	13.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>38.4</b>	34.9	27.4
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>3</b>	4	4
Boron	ppm	ASTM D5185m		<b>&lt;1</b>	5	<1
Barium	ppm	ASTM D5185m		<b>0</b>	<1	<1
Molybdenum	ppm	ASTM D5185m		<b>147</b>	137	132
Manganese	ppm	ASTM D5185m		<b>1</b>	1	1
Magnesium	ppm	ASTM D5185m		<b>27</b>	32	29
Calcium	ppm	ASTM D5185m		<b>5910</b>	5683	5329
Phosphorus	ppm	ASTM D5185m		<b>1143</b>	1123	1139
Zinc	ppm	ASTM D5185m		<b>1411</b>	1281	1272
Sulfur	ppm	ASTM D5185m		<b>4897</b>	5560	5437
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>29.2</b>	24.4	17.7
Base Number (BN)	mg KOH/g	ASTM D2896		<b>12.27</b>	13.63	11.88
Visc @ 100°C	cSt	ASTM D445		<b>19.8</b>	18.0	16.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR0000956  
**Lab Number** : 06230401  
**Unique Number** : 11113894  
**Test Package** : MOB 2  
**Received** : 08 Jul 2024  
**Tested** : 09 Jul 2024  
**Diagnosed** : 10 Jul 2024 - Don Baldridge

**DIETERMAN FARM SERVICES**  
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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)