



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**MACK GR64B R013 (S/N 1378352)**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC PRO-SPEC V SYN BLEND 15W40 (44 LTR)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06194235</b>	TR06109627	TR06009161
Sample Date		Client Info		<b>17 May 2024</b>	28 Dec 2023	06 Nov 2023
Machine Age	mls	Client Info		<b>58763</b>	48994	36483
Oil Age	mls	Client Info		<b>44692</b>	32511	19517
Filter Age	mls	Client Info		<b>9769</b>	12511	12250
Oil Changed		Client Info		<b>Changed</b>	Not Changed	Not Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>120	<b>65</b>	59	36
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	1	<1
Nickel	ppm	ASTM D5185m	>15	<b>4</b>	3	2
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>1</b>	<1	<1
Aluminum	ppm	ASTM D5185m	>20	<b>9</b>	11	10
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>59</b>	72	93
Tin	ppm	ASTM D5185m	>15	<b>3</b>	3	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

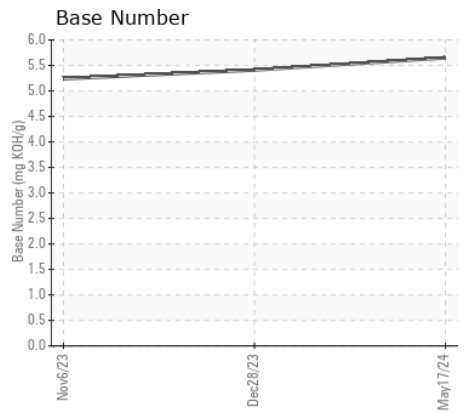
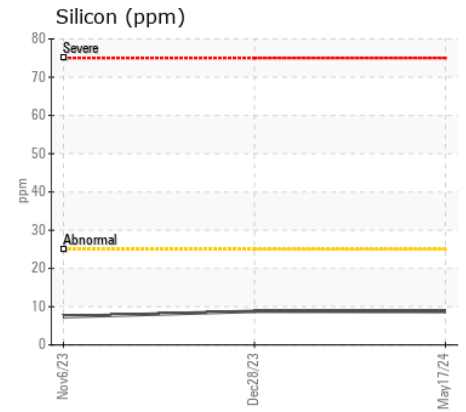
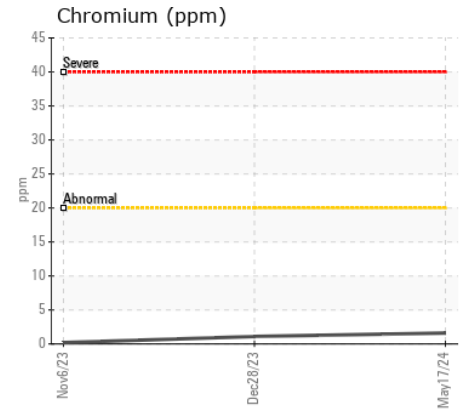
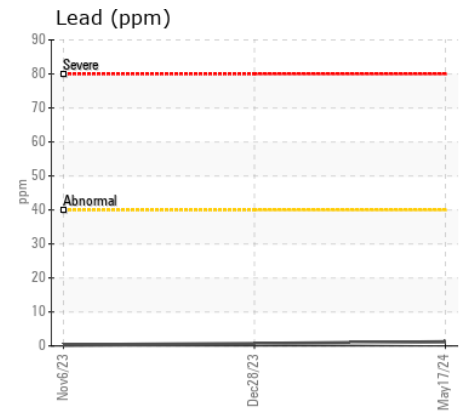
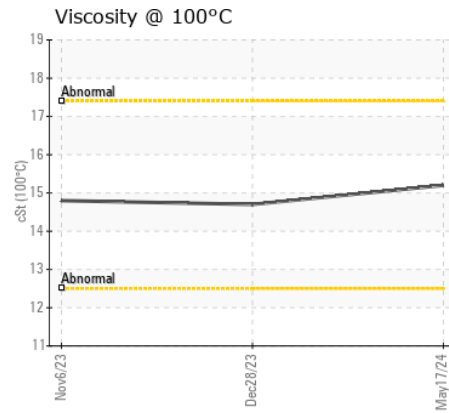
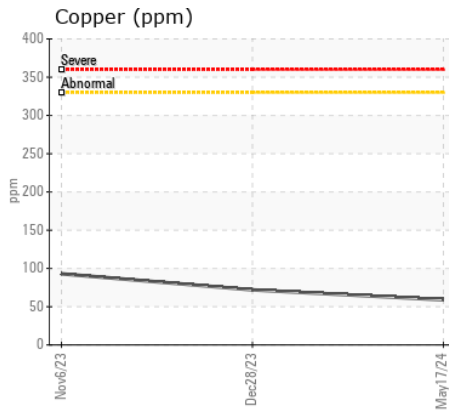
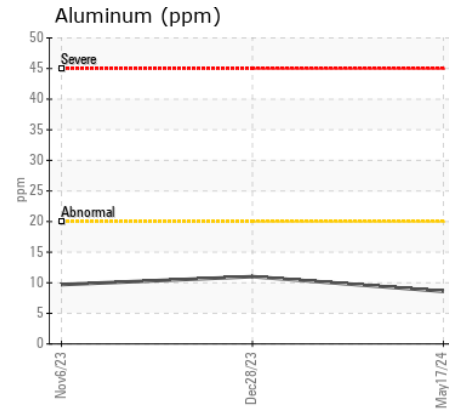
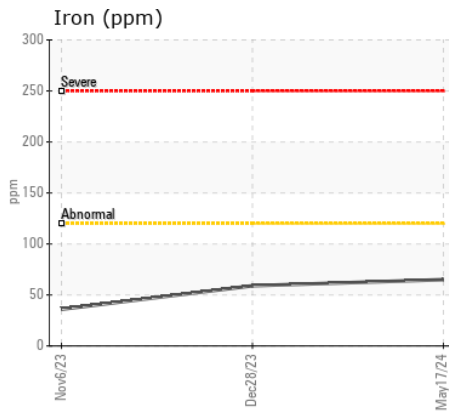
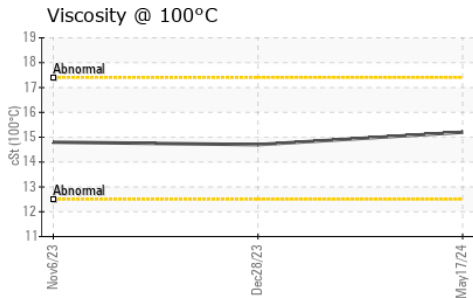
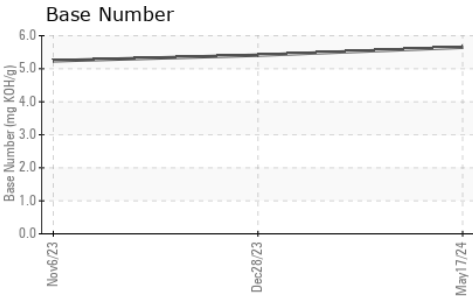
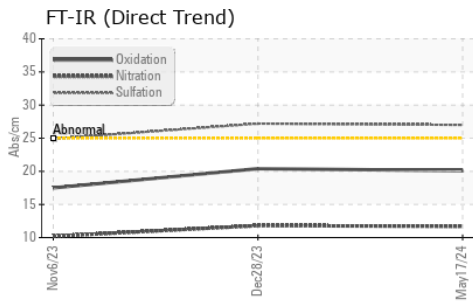
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>9</b>	9	7
Potassium	ppm	ASTM D5185m	>20	<b>30</b>	37	41
Fuel		WC Method	>3.0	<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	>4	<b>0.8</b>	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.7</b>	11.8	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>27.0</b>	27.2	24.9
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 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		<b>2</b>	2	0
Boron	ppm	ASTM D5185m		<b>4</b>	13	4
Barium	ppm	ASTM D5185m		<b>0</b>	1	6
Molybdenum	ppm	ASTM D5185m		<b>9</b>	21	13
Manganese	ppm	ASTM D5185m		<b>2</b>	2	1
Magnesium	ppm	ASTM D5185m		<b>70</b>	93	74
Calcium	ppm	ASTM D5185m		<b>2423</b>	2518	2520
Phosphorus	ppm	ASTM D5185m		<b>932</b>	1014	980
Zinc	ppm	ASTM D5185m		<b>1106</b>	1134	1109
Sulfur	ppm	ASTM D5185m		<b>3771</b>	3721	3536
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.1</b>	20.4	17.5
Base Number (BN)	mg KOH/g	ASTM D2896		<b>5.65</b>	5.41	5.24
Visc @ 100°C	cSt	ASTM D445		<b>15.2</b>	14.7	14.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06194235 **Received** : 29 May 2024  
**Lab Number** : 06194235 **Tested** : 30 May 2024  
**Unique Number** : 11056358 **Diagnosed** : 30 May 2024 - Wes Davis  
**Test Package** : MOB 2

**NORTHWEST REFUSE SERVICE**  
 2001 WINDSOR AVE  
 BALTIMORE, MD  
 US 21217  
 Contact: JASON

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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F: