



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**MACK GU813 R08 (S/N 23206150)**  
 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		TR06222887	TR05993802	TR05811099
Sample Date		Client Info		13 Jun 2024	23 Oct 2023	24 Mar 2023
Machine Age	mls	Client Info		201780	189941	179222
Oil Age	mls	Client Info		22558	10719	29037
Filter Age	mls	Client Info		11839	10719	4190
Oil Changed		Client Info		Not Chngd	Not Chngd	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	26	20	33
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	1
Lead	ppm	ASTM D5185m	>40	4	0	4
Copper	ppm	ASTM D5185m	>330	15	21	3
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

## CONTAMINATION

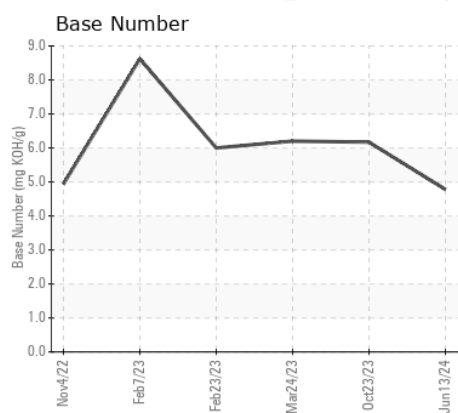
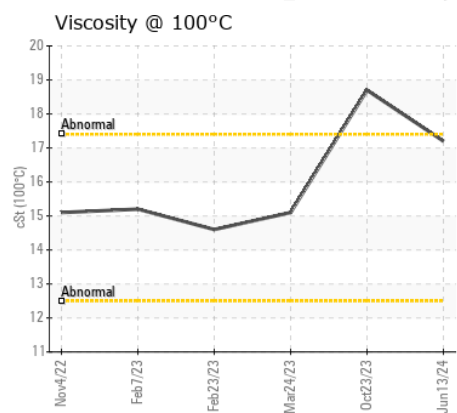
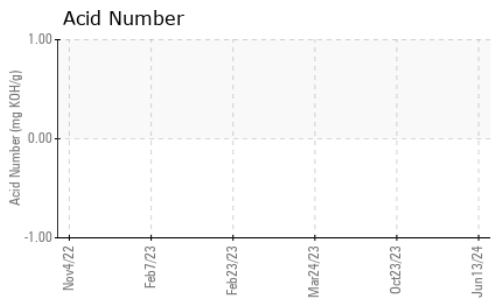
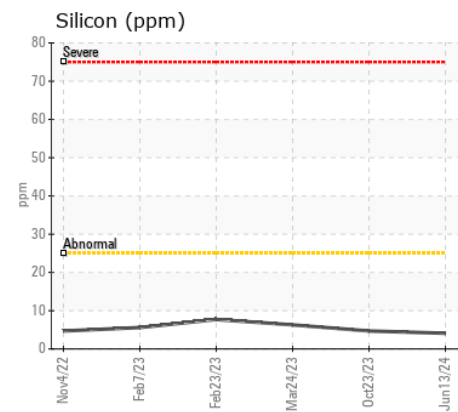
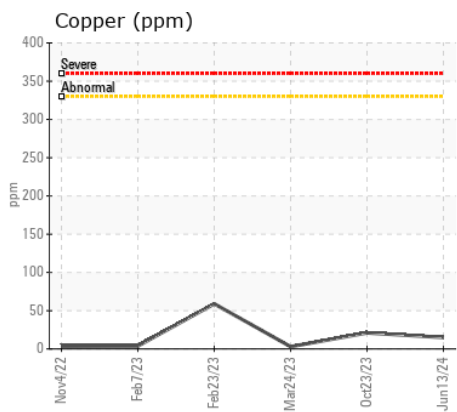
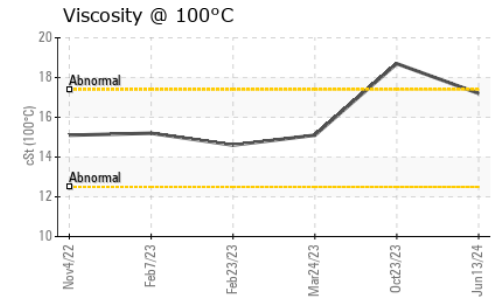
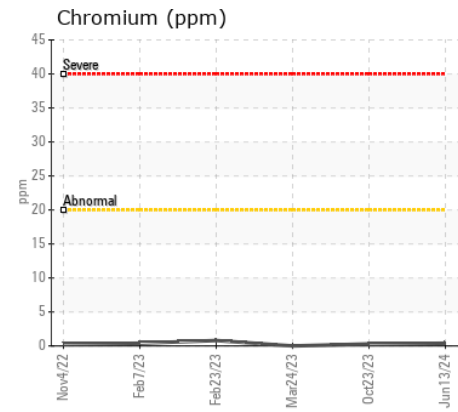
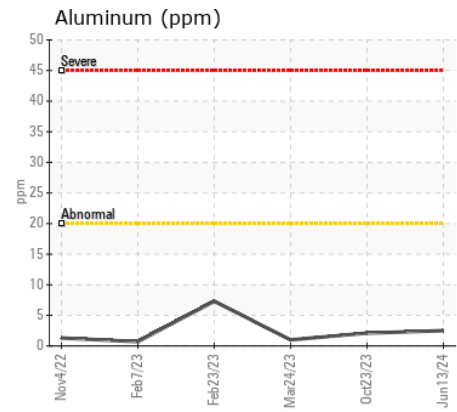
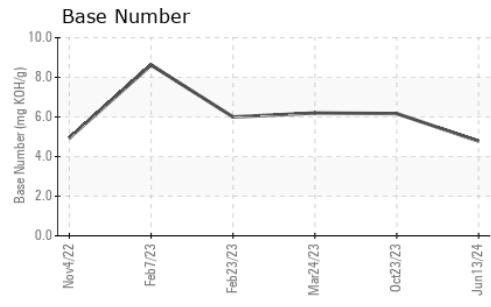
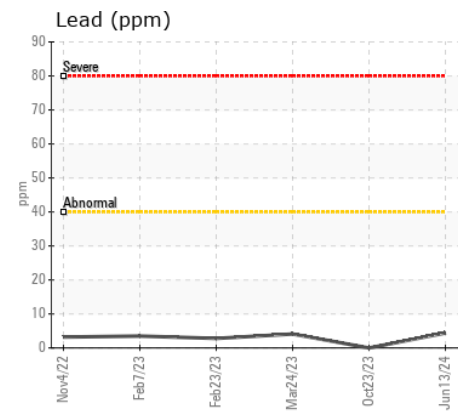
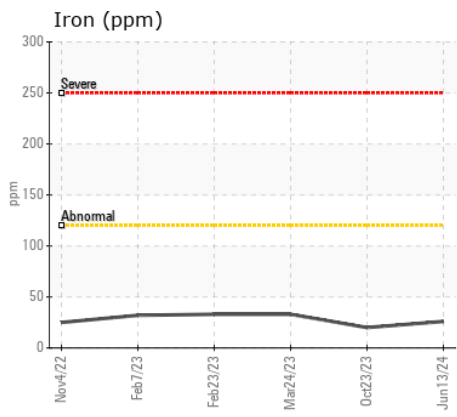
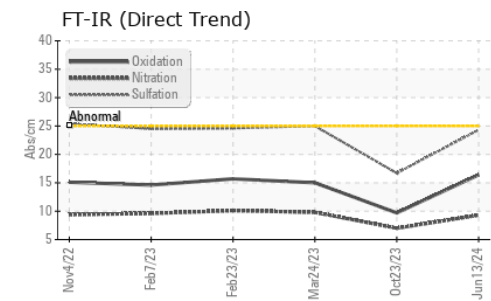
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	5	6
Potassium	ppm	ASTM D5185m	>20	2	3	2
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	>4	0.5	0.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	9.3	7.0	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	16.7	25.0
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		4	2	2
Boron	ppm	ASTM D5185m		2	4	1
Barium	ppm	ASTM D5185m		0	19	0
Molybdenum	ppm	ASTM D5185m		8	9	5
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		62	73	69
Calcium	ppm	ASTM D5185m		2552	2088	2364
Phosphorus	ppm	ASTM D5185m		883	807	891
Zinc	ppm	ASTM D5185m		1023	946	1120
Sulfur	ppm	ASTM D5185m		4231	4710	3853
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.4	9.7	15.0
Base Number (BN)	mg KOH/g	ASTM D2896		4.78	6.17	6.20
Visc @ 100°C	cSt	ASTM D445		17.2	18.7	15.1



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06222887  
**Lab Number** : 06222887  
**Unique Number** : 11101084  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )  
**Received** : 27 Jun 2024  
**Tested** : 02 Jul 2024  
**Diagnosed** : 02 Jul 2024 - Jonathan Hester

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

Certificate L2367  
 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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