



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>ABNORMAL</b>
FLUID CONDITION	<b>ABNORMAL</b>

Machine Id  
**MACK 25**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC MOLY XL PROSPEC III 15W40 (36 GAL)**

## RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06151313</b>	TR06108207	TR06100308
Sample Date		Client Info		<b>12 Apr 2024</b>	29 Feb 2024	20 Feb 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>27</b>	44	1135
Filter Age	hrs	Client Info		<b>27</b>	44	1135
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>4</b>	15	113
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	2
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	2	5
Lead	ppm	ASTM D5185m	>40	<b>3</b>	8	▲ 40
Copper	ppm	ASTM D5185m	>330	<b>111</b>	48	▲ 217
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	3
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

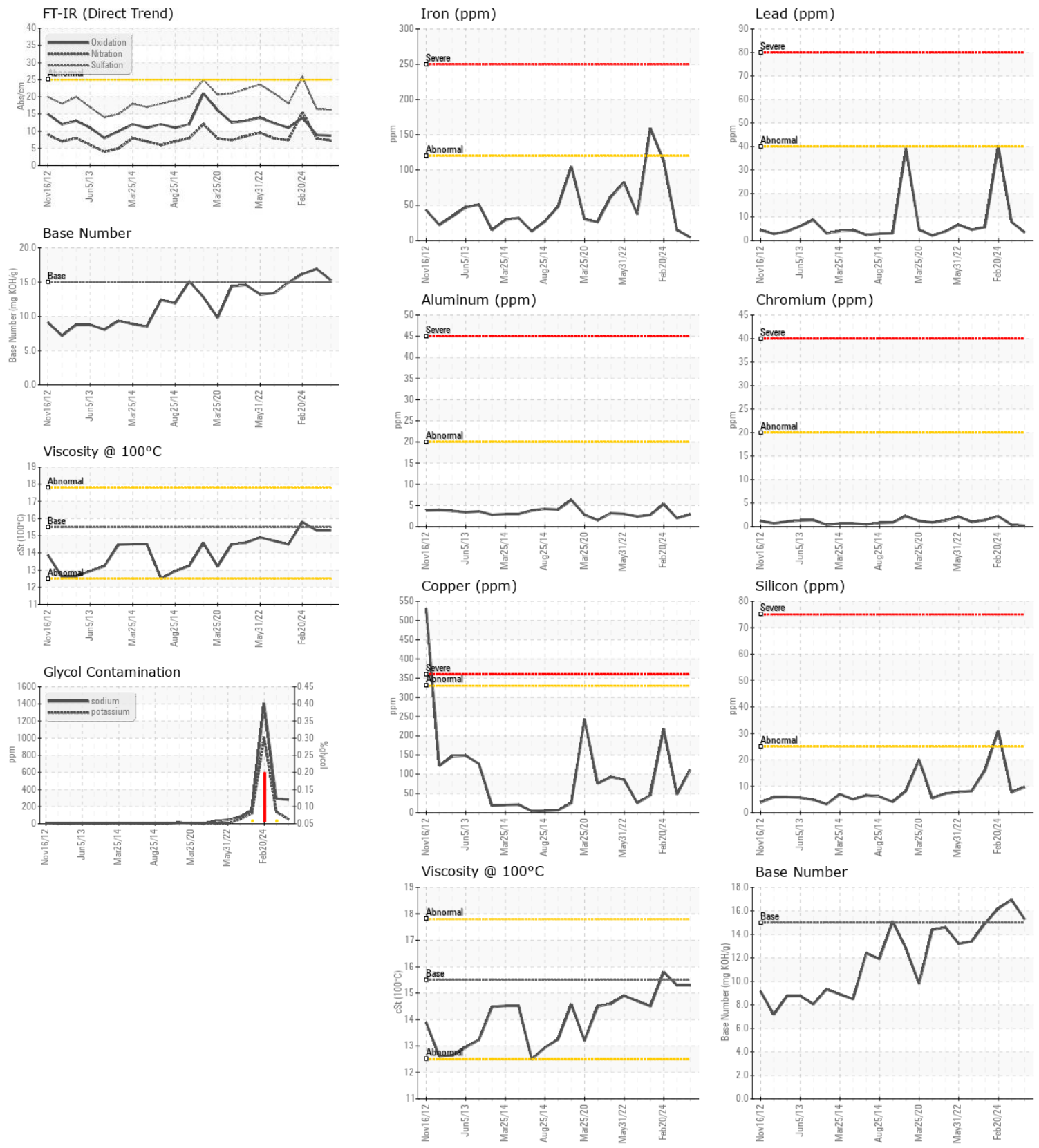
Sodium and/or potassium levels remain high.

Silicon	ppm	ASTM D5185m	>25	<b>10</b>	8	▲ 31
Potassium	ppm	ASTM D5185m	>20	▲ <b>54</b>	▲ 138	▲ 1009
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	%	*ASTM D2982		<b>NEG</b>	▲ 0.06	▲ 0.20
Soot %	%	*ASTM D7844	>4	<b>0.1</b>	0.2	1.9
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.3</b>	7.9	15.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.3</b>	16.5	25.7
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.

Sodium	ppm	ASTM D5185m		▲ <b>280</b>	● 295	● 1409
Boron	ppm	ASTM D5185m		<b>52</b>	30	81
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>134</b>	134	222
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	2
Magnesium	ppm	ASTM D5185m		<b>11</b>	46	429
Calcium	ppm	ASTM D5185m	4500	<b>4140</b>	3942	3756
Phosphorus	ppm	ASTM D5185m		<b>970</b>	912	791
Zinc	ppm	ASTM D5185m	1400	<b>1062</b>	1011	1007
Sulfur	ppm	ASTM D5185m		<b>4356</b>	4274	3622
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.7</b>	8.9	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	15	<b>15.28</b>	16.93	16.19
Visc @ 100°C	cSt	ASTM D445	15.5	<b>15.3</b>	15.3	15.8



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06151313  
**Lab Number** : 06151313  
**Unique Number** : 10981391  
**Test Package** : MOB 2  
**Received** : 16 Apr 2024  
**Tested** : 19 Apr 2024  
**Diagnosed** : 19 Apr 2024 - Jonathan Hester

**NUTTER ENTERPRISES INC**  
 28 STONE RD  
 BELMONT, NH  
 US 03220  
 Contact: DON PERCY

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)