



# LUBE PLUS+

## OIL ANALYSIS REPORT

WEAR  
CONTAMINATION  
FLUID CONDITION

**ABNORMAL**

**NORMAL**

**NORMAL**



Machine Id  
**MACK R-5**  
Component  
**Diesel Engine**  
Fluid  
**10W30 DURON SEMI (--- QTS)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LP0001316</b>	LP0001472	LP0001149
Sample Date		Client Info		<b>20 May 2024</b>	18 Mar 2024	04 Dec 2023
Machine Age	hrs	Client Info		<b>21413</b>	20953	20354
Oil Age	hrs	Client Info		<b>460</b>	600	425
Filter Age	hrs	Client Info		<b>460</b>	600	425
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

### WEAR

Moderate concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>8</b>	12	6
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	5	5
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>3</b>	3	3
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>▲ MODER</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

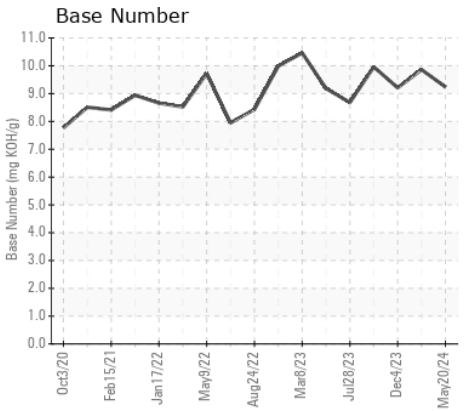
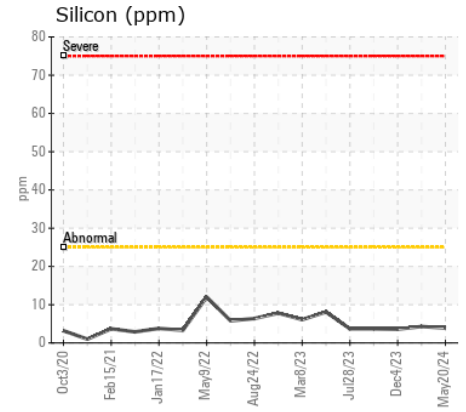
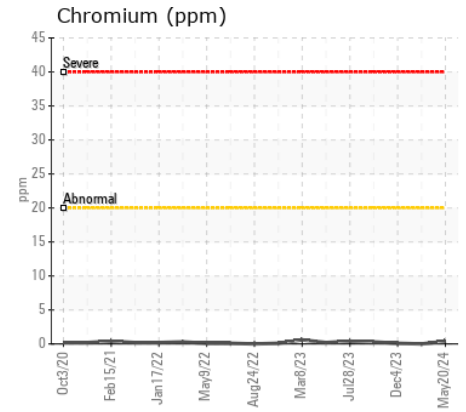
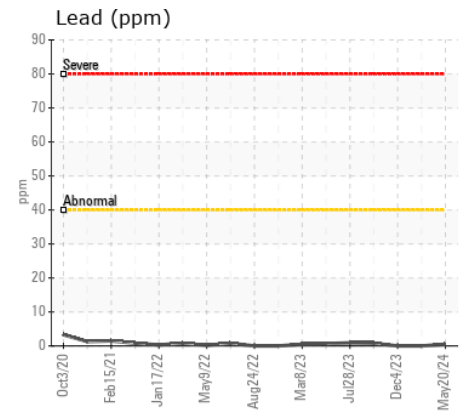
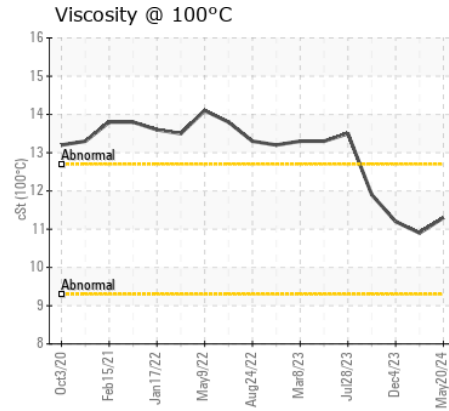
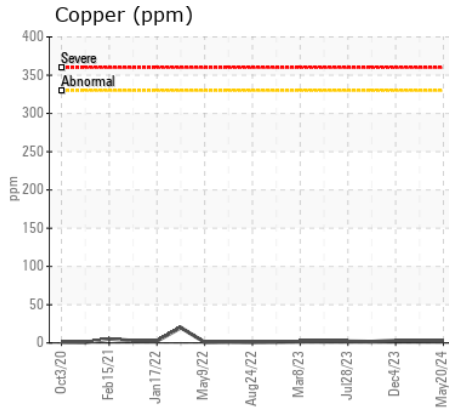
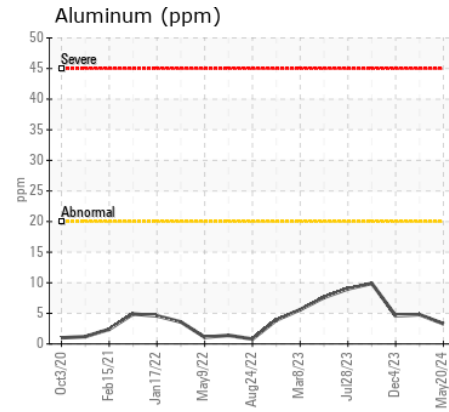
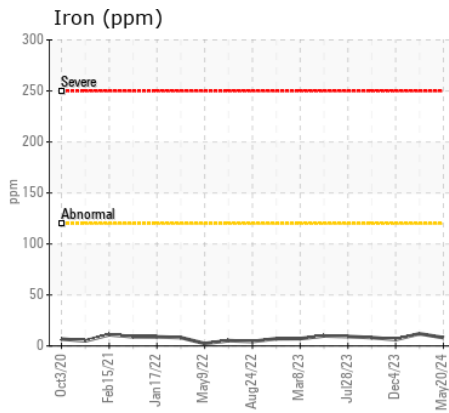
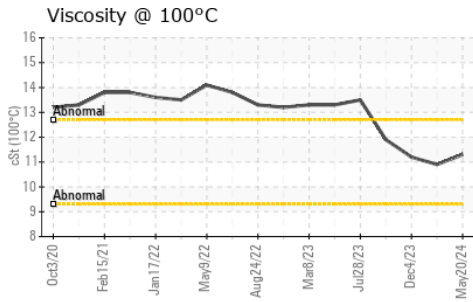
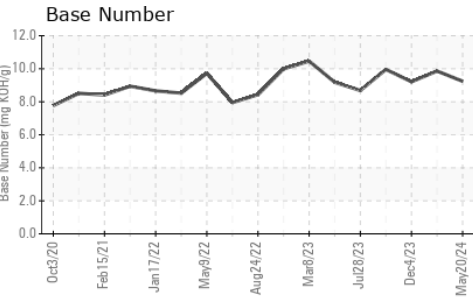
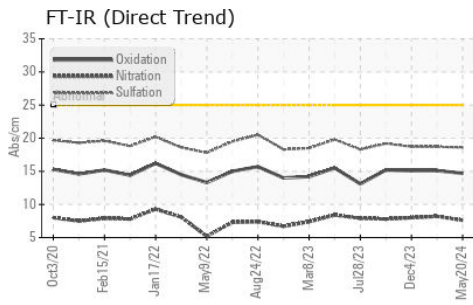
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	8	10
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>0.3</b>	0.3	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.6</b>	8.2	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.6</b>	18.7	18.7
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. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>5</b>	6	7
Boron	ppm	ASTM D5185m		<b>4</b>	5	7
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>58</b>	63	58
Manganese	ppm	ASTM D5185m		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>877</b>	1015	918
Calcium	ppm	ASTM D5185m		<b>1100</b>	1184	1027
Phosphorus	ppm	ASTM D5185m		<b>1080</b>	1120	1017
Zinc	ppm	ASTM D5185m		<b>1218</b>	1324	1235
Sulfur	ppm	ASTM D5185m		<b>3190</b>	3758	3035
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.7</b>	15.1	15.1
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.24</b>	9.86	9.21
Visc @ 100°C	cSt	ASTM D445		<b>11.3</b>	10.9	11.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0001316  
**Lab Number** : 06194692  
**Unique Number** : 11056815  
**Test Package** : MOB 2

**Received** : 29 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 2024 - Don Baldrige

**SELECT DEMO**  
 40 LOWELL RD  
 SALEM, NH  
 US 03079

Contact: STAN DOGIL  
 SDOGIL@SELECTDEMOSERVICES.COM  
 T: (603)401-0147  
 F: (603)458-7389

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - 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)