



# OIL ANALYSIS REPORT

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



Machine Id  
**MACK GU713 T-53 (S/N 1M2AX04C59M006138)**  
Component  
**Diesel Engine**  
Fluid  
**CONOCO PHILLIPS GUARDOL ECT 15W40 (10 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0849499</b>	WC0794448	WC0692151
Sample Date		Client Info		<b>07 Jun 2024</b>	16 Jun 2023	24 May 2022
Machine Age	mls	Client Info		<b>333001</b>	317571	305950
Oil Age	mls	Client Info		<b>15430</b>	11621	17175
Filter Age	mls	Client Info		<b>15430</b>	11621	17175
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>42</b>	26	38
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>91</b>	92	37
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	2	5
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	3
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	2
Tin	ppm	ASTM D5185m	>15	<b>1</b>	<1	2
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.

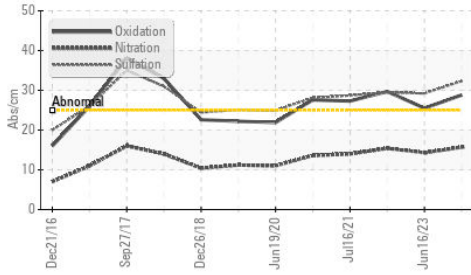
Silicon	ppm	ASTM D5185m	>25	<b>11</b>	11	15
Potassium	ppm	ASTM D5185m	>20	<b>10</b>	8	2
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>4	<b>1.4</b>	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>15.7</b>	14.3	15.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>32.3</b>	29.2	29.5
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

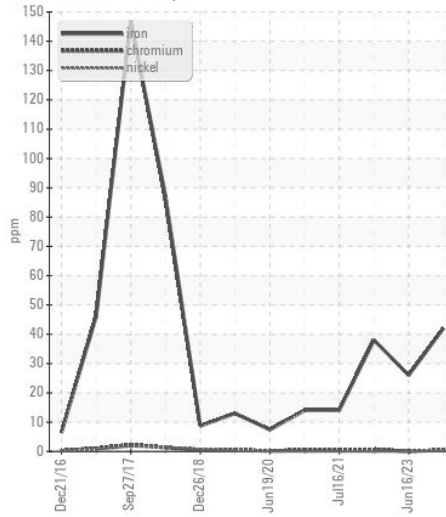
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>6</b>	7	5
Boron	ppm	ASTM D5185m	85	<b>38</b>	51	65
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>6</b>	10	79
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	350	<b>502</b>	468	597
Calcium	ppm	ASTM D5185m	1800	<b>2008</b>	1971	1786
Phosphorus	ppm	ASTM D5185m	1000	<b>1160</b>	1091	872
Zinc	ppm	ASTM D5185m	1100	<b>1387</b>	1336	1065
Sulfur	ppm	ASTM D5185m	3500	<b>4581</b>	4609	3245
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>28.8</b>	25.5	29.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	<b>6.6</b>	6.8	5.4
Visc @ 100°C	cSt	ASTM D445	15.3	<b>14.6</b>	14.2	13.6

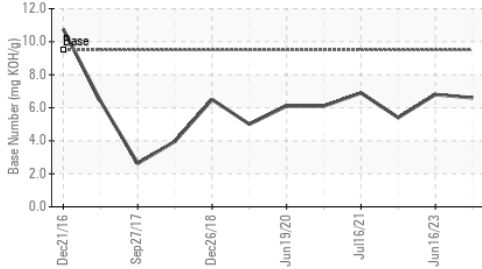
**FT-IR (Direct Trend)**



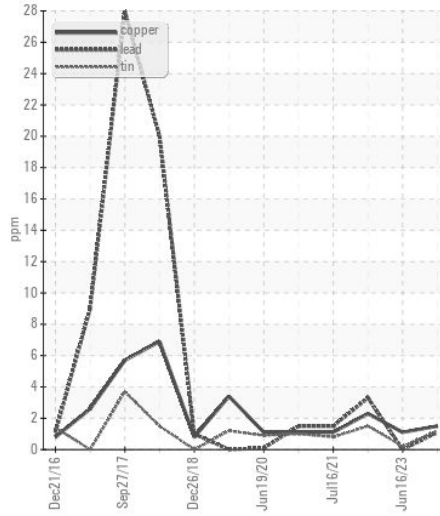
**Ferrous Alloys**



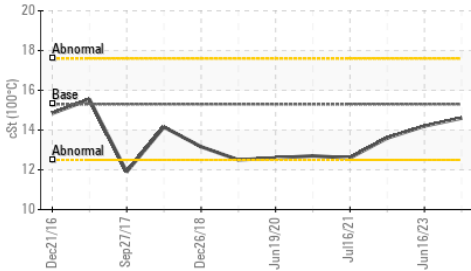
**Base Number**



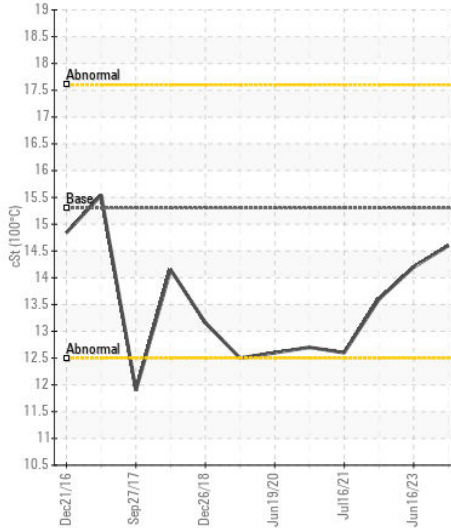
**Non-ferrous Metals**



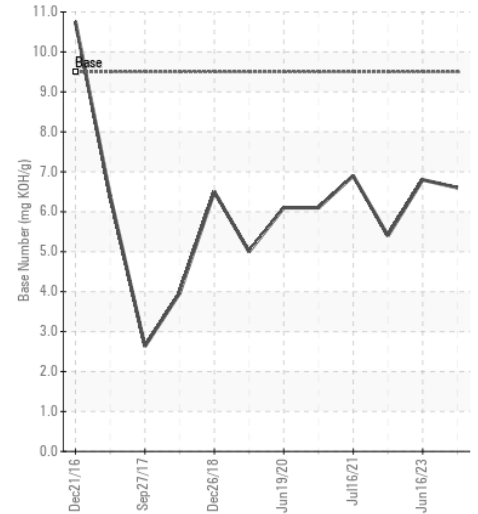
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0849499 **Received** : 19 Jun 2024  
**Lab Number** : 06214454 **Tested** : 20 Jun 2024  
**Unique Number** : 11087318 **Diagnosed** : 21 Jun 2024 - Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

**FRANKLIN IRON & METAL CORP**  
 1939 EAST 1ST ST  
 DAYTON, OH  
 US 45403  
 Contact: BILL PITTL JR  
 parts@frankliniron.com  
 T: (937)253-8184  
 F:

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)