



# OIL ANALYSIS REPORT

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

Machine Id  
**LORAIN LRT230E 80489**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL 10W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>HPL0003816</b>	HPL0001712	---
Sample Date		Client Info		<b>23 Apr 2024</b>	17 Oct 2022	---
Machine Age	hrs	Client Info		<b>5530</b>	4869	---
Oil Age	hrs	Client Info		<b>0</b>	299	---
Filter Age	hrs	Client Info		<b>0</b>	299	---
Oil Changed		Client Info		<b>N/A</b>	Changed	---
Filter Changed		Client Info		<b>N/A</b>	Changed	---
Sample Status				<b>NORMAL</b>	NORMAL	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>20</b>	12	---
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	1	---
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>20	<b>8</b>	1	---
Lead	ppm	ASTM D5185m	>40	<b>5</b>	5	---
Copper	ppm	ASTM D5185m	>330	<b>2</b>	<1	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

## CONTAMINATION

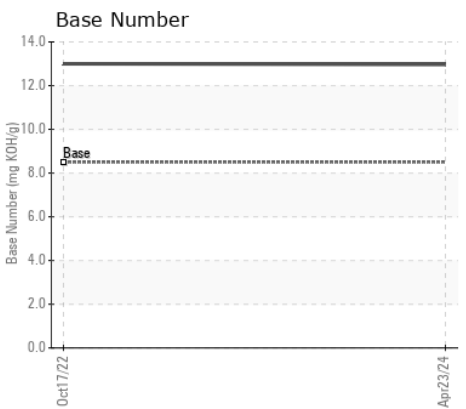
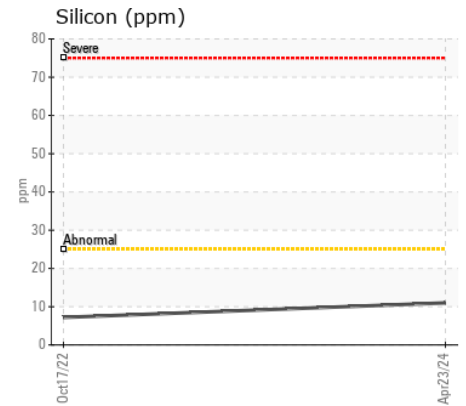
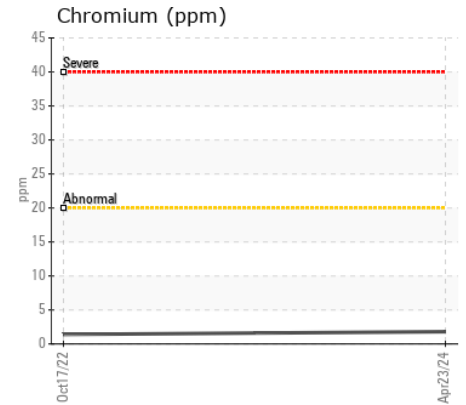
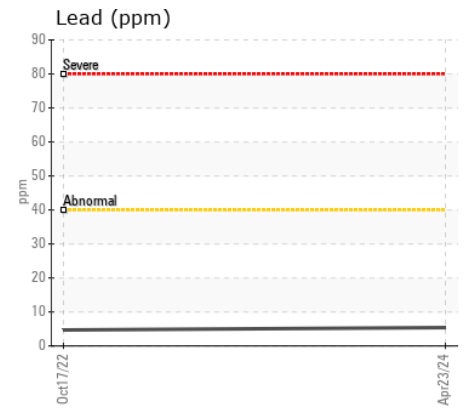
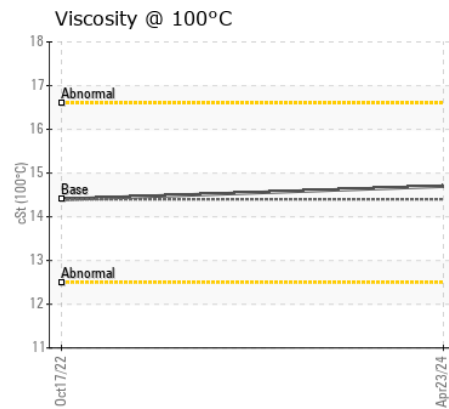
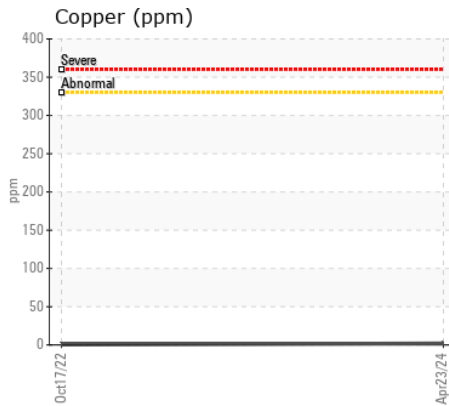
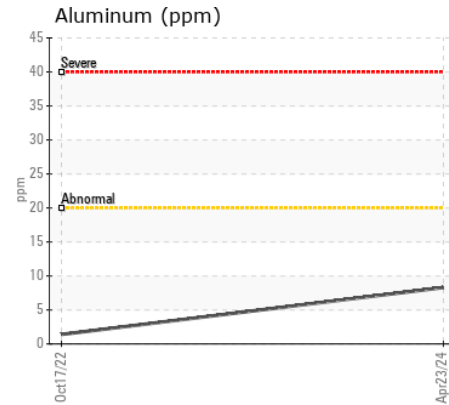
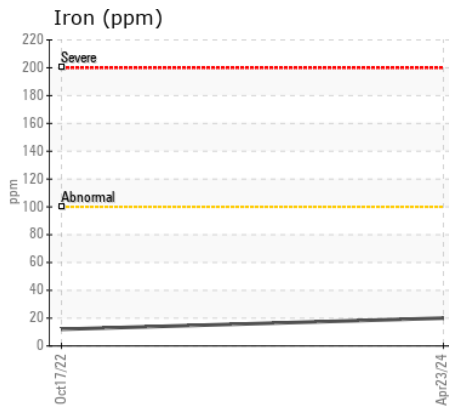
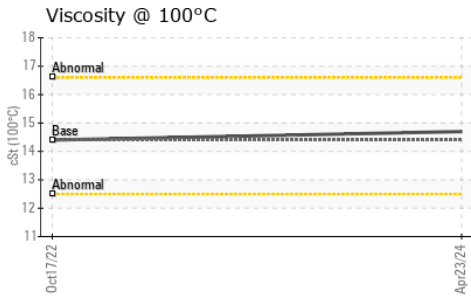
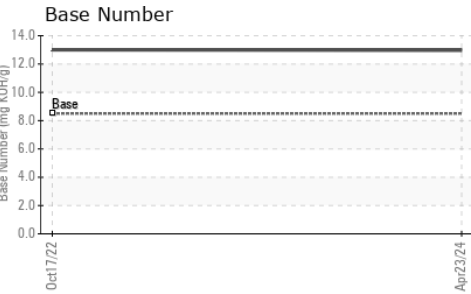
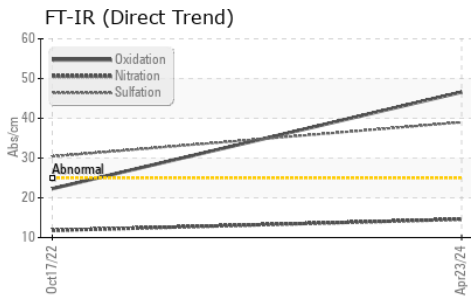
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>11</b>	7	---
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	1	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.2	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.6</b>	11.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>39.0</b>	30.4	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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>3</b>	<1	---
Boron	ppm	ASTM D5185m	250	<b>13</b>	195	---
Barium	ppm	ASTM D5185m	10	<b>2</b>	0	---
Molybdenum	ppm	ASTM D5185m	100	<b>558</b>	565	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	---
Magnesium	ppm	ASTM D5185m	450	<b>940</b>	469	---
Calcium	ppm	ASTM D5185m	3000	<b>2590</b>	3699	---
Phosphorus	ppm	ASTM D5185m	1150	<b>1085</b>	769	---
Zinc	ppm	ASTM D5185m	1350	<b>1266</b>	1037	---
Sulfur	ppm	ASTM D5185m	4250	<b>8653</b>	19591	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>46.6</b>	22.3	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>12.97</b>	13.0	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.7</b>	14.4	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : HPL0003816  
**Lab Number** : 06159319  
**Unique Number** : 10994742  
**Test Package** : MOB 2

**Received** : 24 Apr 2024  
**Tested** : 25 Apr 2024  
**Diagnosed** : 26 Apr 2024 - Don Baldrige

**STEVENS ON CRANE**  
 410 STEVENSON DR  
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 US 60440

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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)

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