



# OIL ANALYSIS REPORT

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

Machine Id  
**JLG 660SJ PL1558**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL 10W40 (--- LTR)**

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil and perform a filter service on this component if not already done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>HPL0004944</b>	---	---
Sample Date		Client Info		<b>14 Jun 2024</b>	---	---
Machine Age	hrs	Client Info		<b>3619</b>	---	---
Oil Age	hrs	Client Info		<b>0</b>	---	---
Filter Age	hrs	Client Info		<b>0</b>	---	---
Oil Changed		Client Info		<b>N/A</b>	---	---
Filter Changed		Client Info		<b>N/A</b>	---	---
Sample Status				<b>SEVERE</b>	---	---

## WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	<b>▲ 581</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>12</b>	---	---
Nickel	ppm	ASTM D5185m	>4	<b>7</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>● 28</b>	---	---
Lead	ppm	ASTM D5185m	>40	<b>34</b>	---	---
Copper	ppm	ASTM D5185m	>330	<b>11</b>	---	---
Tin	ppm	ASTM D5185m	>15	<b>10</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

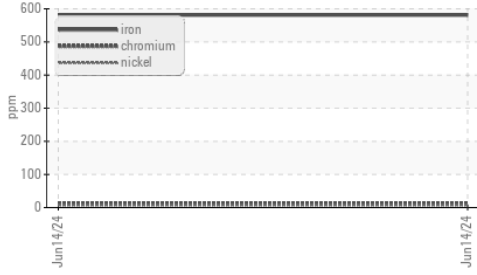
Silicon	ppm	ASTM D5185m	>25	<b>▲ 62</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	---	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.2	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>25.5</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>69.8</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---

## FLUID CONDITION

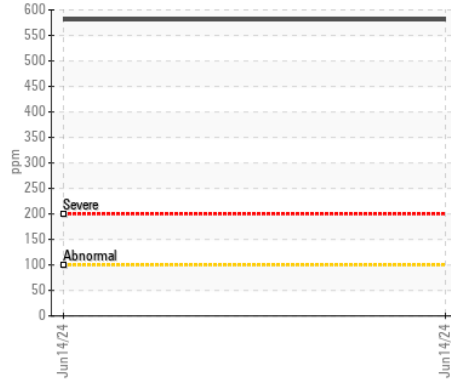
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185m		<b>18</b>	---	---
Boron	ppm	ASTM D5185m	250	<b>3</b>	---	---
Barium	ppm	ASTM D5185m	10	<b>&lt;1</b>	---	---
Molybdenum	ppm	ASTM D5185m	100	<b>398</b>	---	---
Manganese	ppm	ASTM D5185m		<b>6</b>	---	---
Magnesium	ppm	ASTM D5185m	450	<b>699</b>	---	---
Calcium	ppm	ASTM D5185m	3000	<b>2252</b>	---	---
Phosphorus	ppm	ASTM D5185m	1150	<b>709</b>	---	---
Zinc	ppm	ASTM D5185m	1350	<b>1088</b>	---	---
Sulfur	ppm	ASTM D5185m	4250	<b>5953</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>76.0</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>4.69</b>	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>12.6</b>	---	---

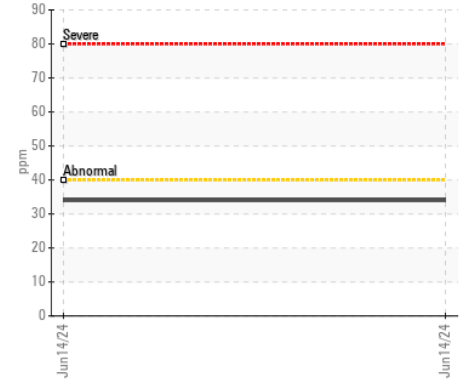
▲ Ferrous Alloys



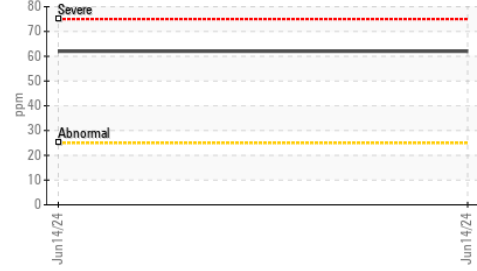
▲ Iron (ppm)



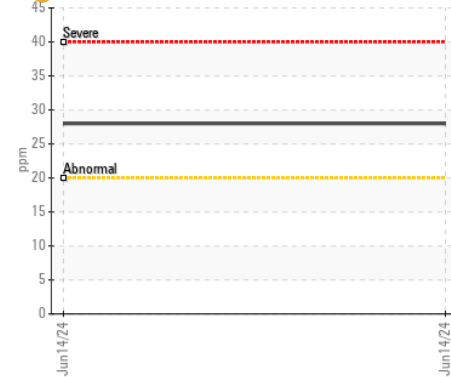
Lead (ppm)



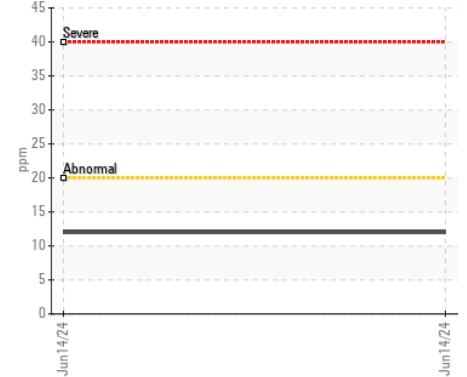
▲ Silicon (ppm)



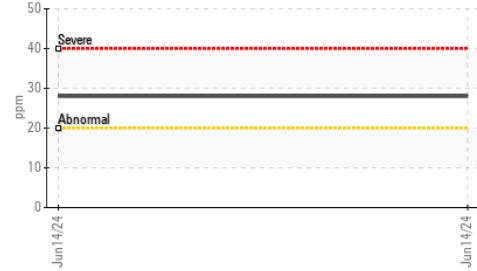
● Aluminum (ppm)



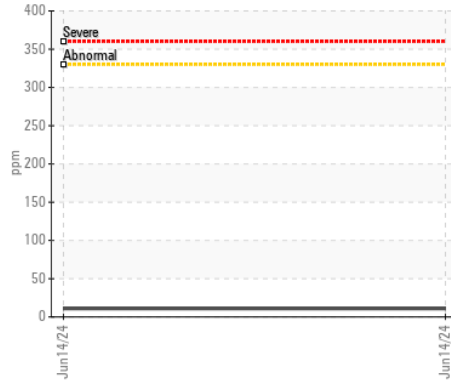
Chromium (ppm)



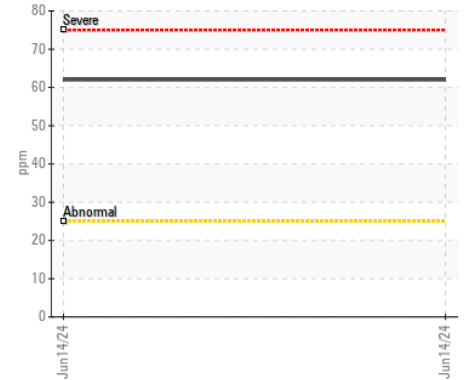
● Aluminum (ppm)



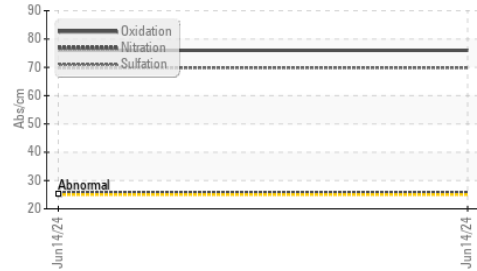
Copper (ppm)



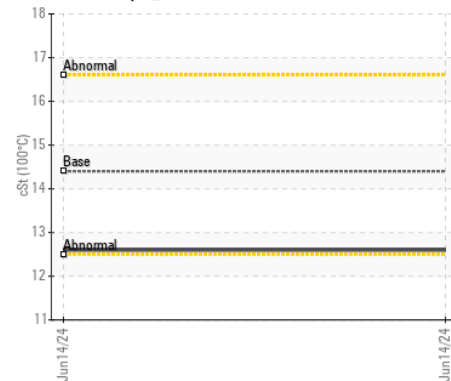
▲ Silicon (ppm)



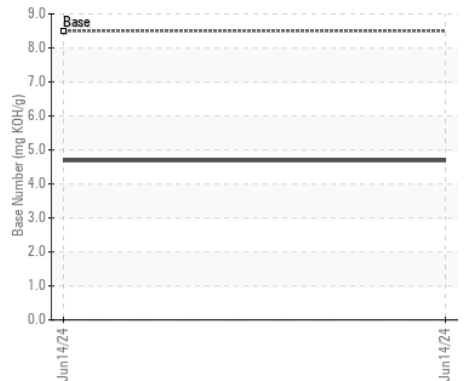
FT-IR (Direct Trend)



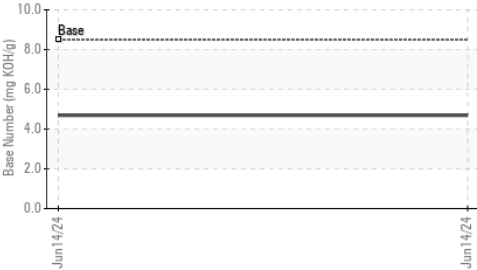
Viscosity @ 100°C



Base Number



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : HPL0004944

Lab Number : 06221423

Unique Number : 11099620

Test Package : MOB 2 ( Additional Tests: TAN Man )

Received : 26 Jun 2024

Tested : 28 Jun 2024

Diagnosed : 28 Jun 2024 - Jonathan Hester

STEVENS ON CRANE

410 STEVENSON DR

BOLINGBROOK, IL

US 60440

Contact: DAVE KOEHNE

davidk@stevensoncrane.com

T: (630)972-9199

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)