



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**HITACHI 1190**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. (looking for blow-by).

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0783524	---	---
Sample Date		Client Info		08 Jan 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				NORMAL	---	---

## WEAR

All component wear rates are normal.

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

## CONTAMINATION

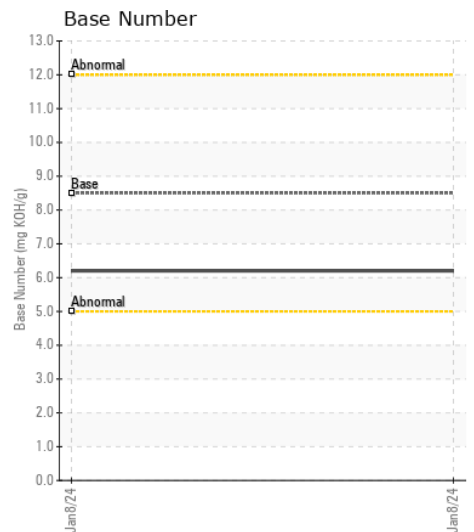
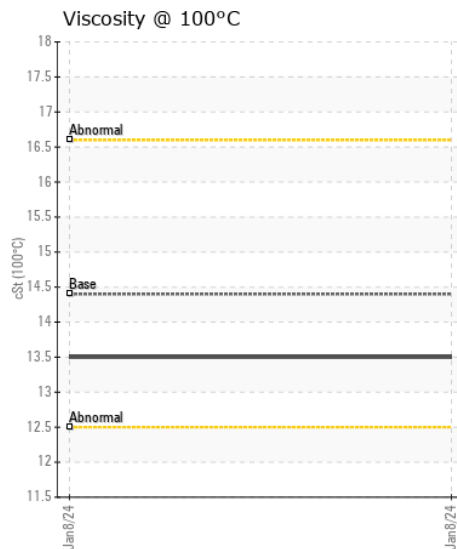
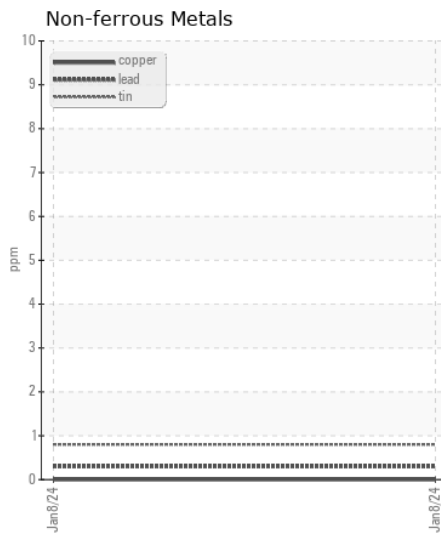
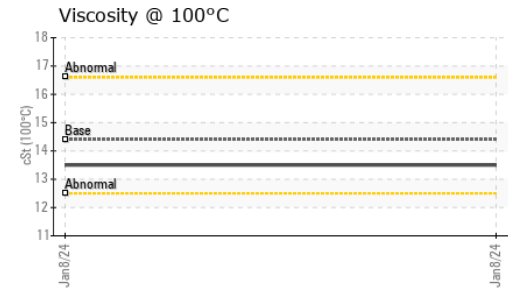
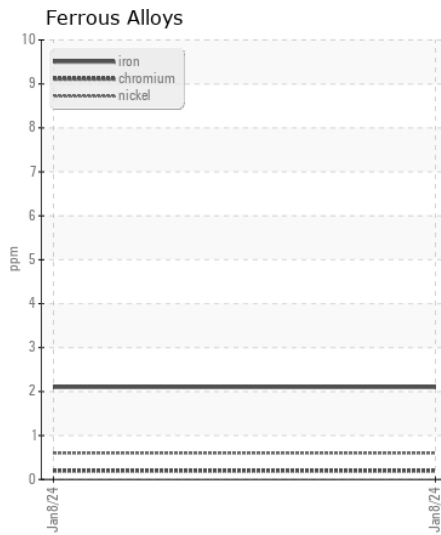
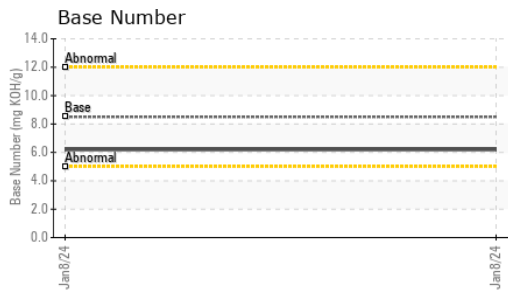
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Fuel		WC Method	>5	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844	>3	0	---	---
Nitration	Abs/cm	*ASTM D7624	>20	6.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	16.0	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
Appearance	scalar	*Visual	NORML	NORML	---	---
Odor	scalar	*Visual	NORML	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	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	>158	0	---	---
Boron	ppm	ASTM D5185m	250	53	---	---
Barium	ppm	ASTM D5185m	10	0	---	---
Molybdenum	ppm	ASTM D5185m	100	65	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m	450	24	---	---
Calcium	ppm	ASTM D5185m	3000	1872	---	---
Phosphorus	ppm	ASTM D5185m	1150	921	---	---
Zinc	ppm	ASTM D5185m	1350	1116	---	---
Sulfur	ppm	ASTM D5185m	4250	3486	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	11.6	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.2	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0783524 **Received** : 11 Jan 2024  
**Lab Number** : 06057858 **Diagnosed** : 12 Jan 2024  
**Unique Number** : 10829240 **Diagnostician** : Don Baldrige  
**Test Package** : CONST ( Additional Tests: TBN )

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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)