



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**HITACHI ZAXIS 135-G EX-84 (S/N HCMDAT60L00200492)**

Component  
**Diesel Engine**

Fluid  
**UNITED OIL DURALENE (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0034641</b>	DC0030471	DC0023158
Sample Date		Client Info		<b>18 Jun 2024</b>	14 Aug 2023	27 Jul 2022
Machine Age	hrs	Client Info		<b>2373</b>	1786	1212
Oil Age	hrs	Client Info		<b>500</b>	500	500
Filter Age	hrs	Client Info		<b>500</b>	500	500
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	ABNORMAL	ATTENTION

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	5	7
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	0	6
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>173</b>	▲ 454	104
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

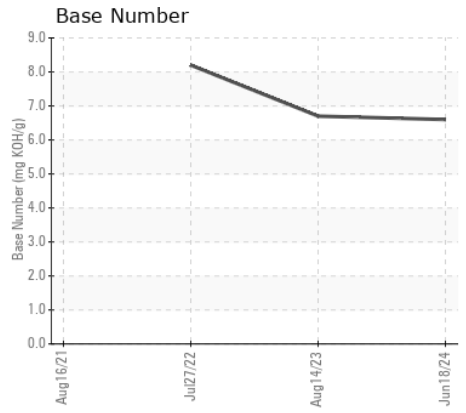
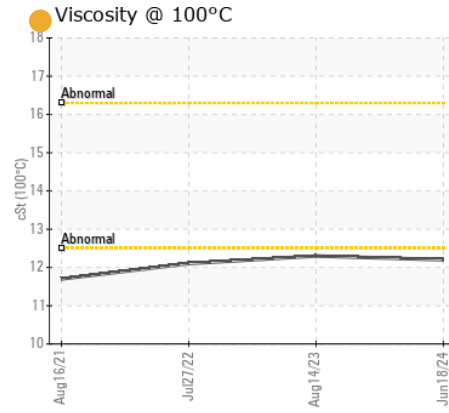
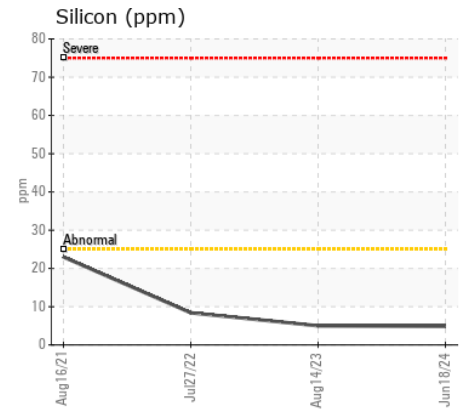
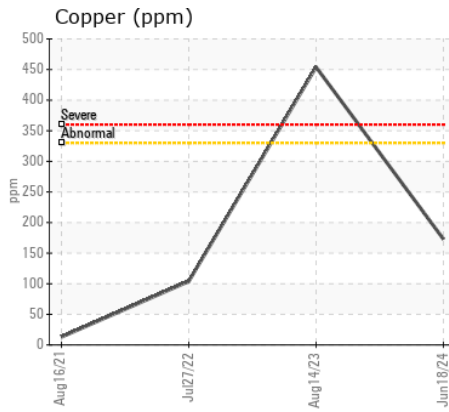
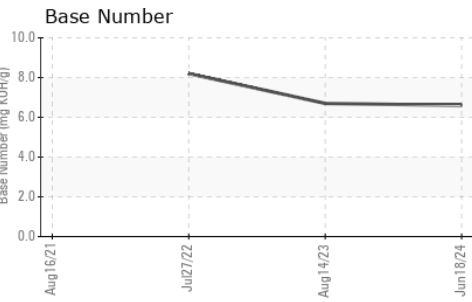
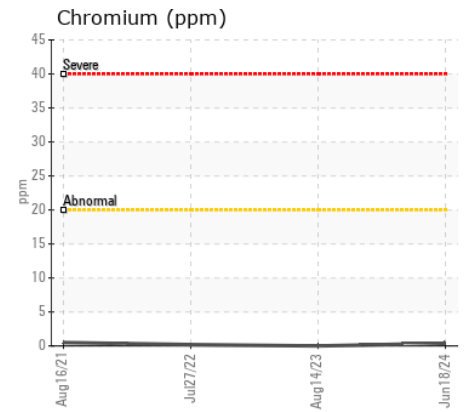
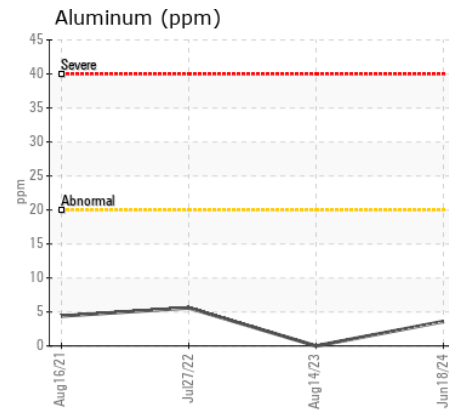
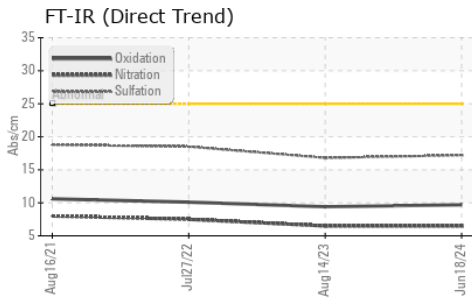
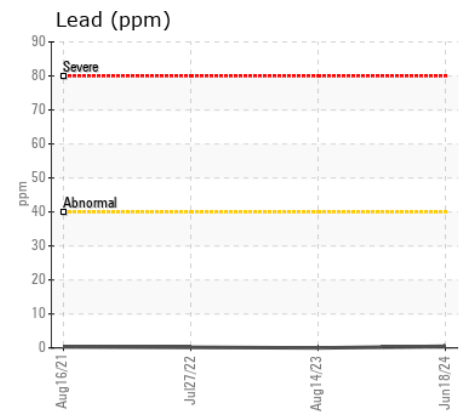
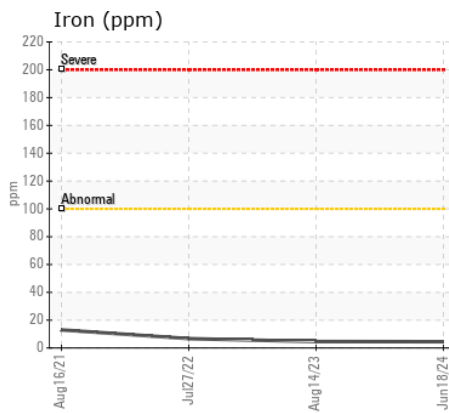
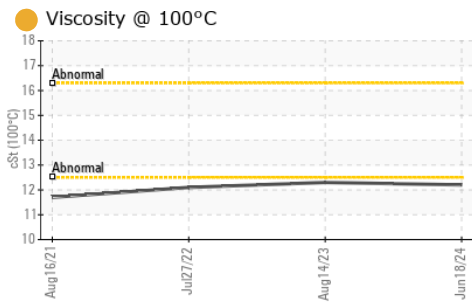
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	8
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	5
Fuel		WC Method	>5	<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>	0.0	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	6.5	7.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.2</b>	16.8	18.5
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m		<b>1</b>	0	2
Boron	ppm	ASTM D5185m		<b>3</b>	4	37
Barium	ppm	ASTM D5185m		<b>0</b>	2	<1
Molybdenum	ppm	ASTM D5185m		<b>3</b>	4	3
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>39</b>	51	45
Calcium	ppm	ASTM D5185m		<b>2295</b>	2430	2289
Phosphorus	ppm	ASTM D5185m		<b>852</b>	944	891
Zinc	ppm	ASTM D5185m		<b>1044</b>	1099	1047
Sulfur	ppm	ASTM D5185m		<b>3677</b>	4121	3542
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.7</b>	9.4	10.1
Base Number (BN)	mg KOH/g	ASTM D2896		<b>6.6</b>	6.7	8.2
Visc @ 100°C	cSt	ASTM D445		<b>12.2</b>	12.3	12.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0034641 **Received** : 10 Jul 2024  
**Lab Number** : 06232074 **Tested** : 11 Jul 2024  
**Unique Number** : 11115567 **Diagnosed** : 11 Jul 2024 - Don Baldrige  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**ROSS CONTRACTING INC.**  
 1007 RISING RIDGE ROAD  
 MOUNT AIRY, MD  
 US 21771

Contact: JONATHAN KUENTZ  
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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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