



# OIL ANALYSIS REPORT

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

Machine Id  
**35170**  
Component  
**Diesel Engine**  
Fluid  
**{not provided} (--- QTS)**

## RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

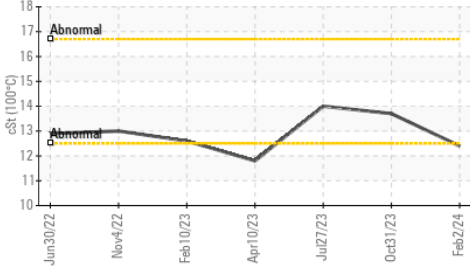
Fuel content negligible. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

## FLUID CONDITION

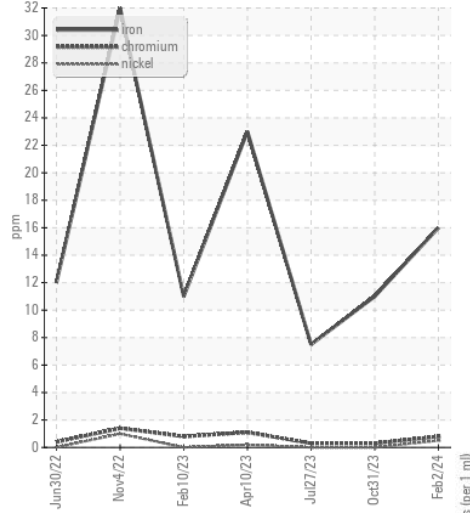
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>KL0012027</b>	KL0012073	KL0012067
Sample Date		Client Info		<b>02 Feb 2024</b>	31 Oct 2023	27 Jul 2023
Machine Age	mls	Client Info		<b>36587</b>	35352	34704
Oil Age	mls	Client Info		<b>35352</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>MARGINAL</b>	ATTENTION	ATTENTION
Iron	ppm	ASTM D5185m	>100	<b>16</b>	11	8
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	2	1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>45</b>	31	22
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>10</b>	5	4
Fuel	%	ASTM D3524	>5	<b>0.3</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	>3	<b>0.4</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	6.1	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.4</b>	19.2	18.3
Particles >4µm		ASTM D7647		<b>5446</b>	7412	9657
Particles >6µm		ASTM D7647	>5000	<b>2967</b>	4038	▲ 5261
Particles >14µm		ASTM D7647	>640	<b>505</b>	▲ 687	▲ 895
Particles >21µm		ASTM D7647	>160	<b>170</b>	▲ 231	▲ 302
Particles >38µm		ASTM D7647	>40	<b>26</b>	36	▲ 47
Particles >71µm		ASTM D7647	>10	<b>3</b>	4	5
Oil Cleanliness		ISO 4406 (c)	>19/16	<b>19/16</b>	▲ 19/17	▲ 20/17
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
Sodium	ppm	ASTM D5185m		<b>2</b>	3	1
Boron	ppm	ASTM D5185m		<b>31</b>	98	121
Barium	ppm	ASTM D5185m		<b>5</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>55</b>	61	66
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>907</b>	1143	1130
Calcium	ppm	ASTM D5185m		<b>808</b>	1015	1049
Phosphorus	ppm	ASTM D5185m		<b>777</b>	1138	1102
Zinc	ppm	ASTM D5185m		<b>1059</b>	1348	1314
Sulfur	ppm	ASTM D5185m		<b>2470</b>	3662	4203
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.6</b>	15.0	14.2
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.44</b>	11.46	11.05
Visc @ 100°C	cSt	ASTM D445		▲ <b>12.4</b>	13.7	14.0

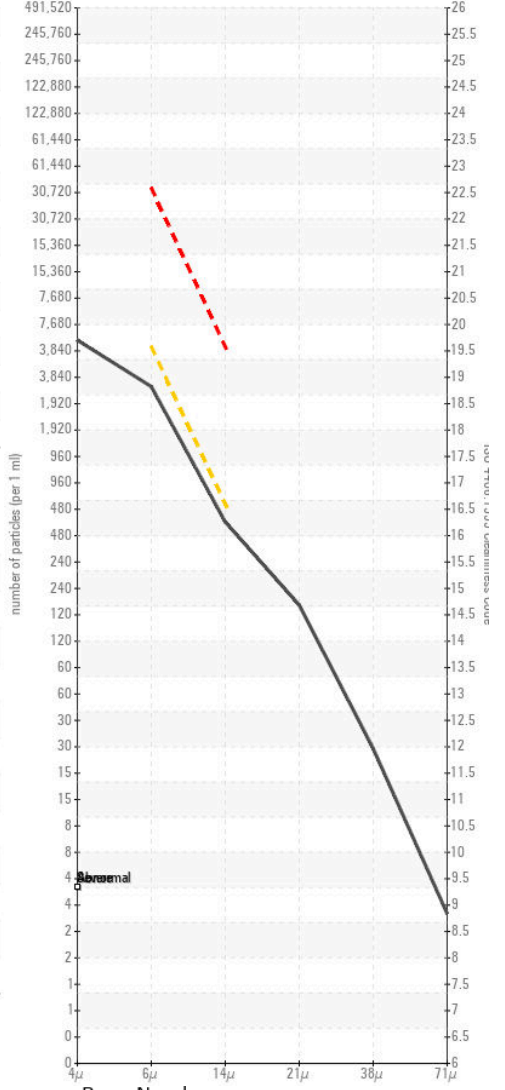
▲ Viscosity @ 100°C



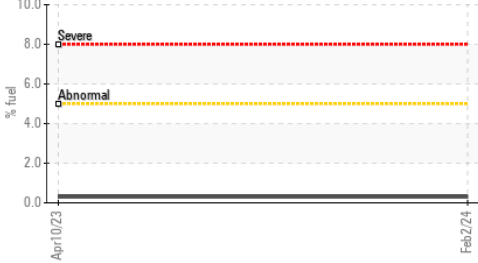
Ferrous Alloys



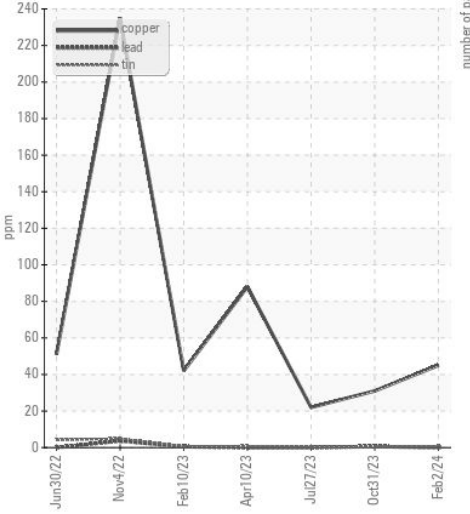
Particle Count



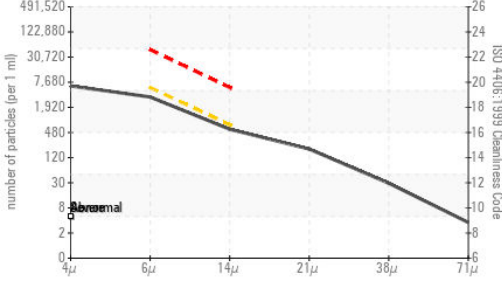
Fuel Dilution



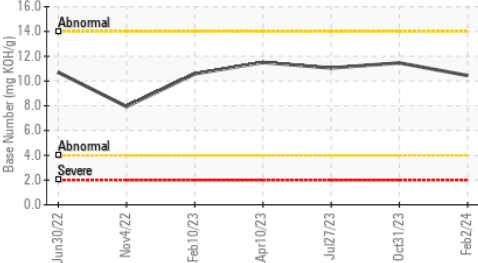
Non-ferrous Metals



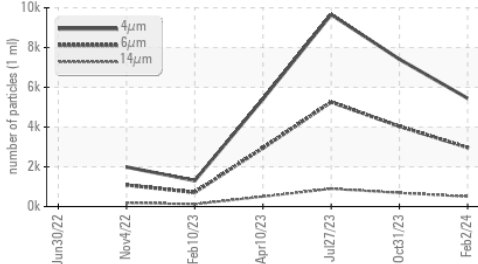
Particle Count



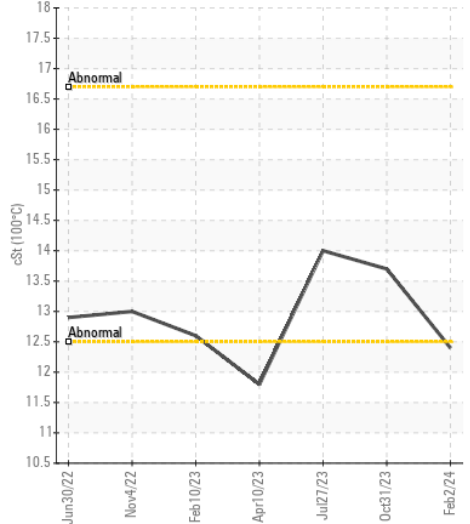
Base Number



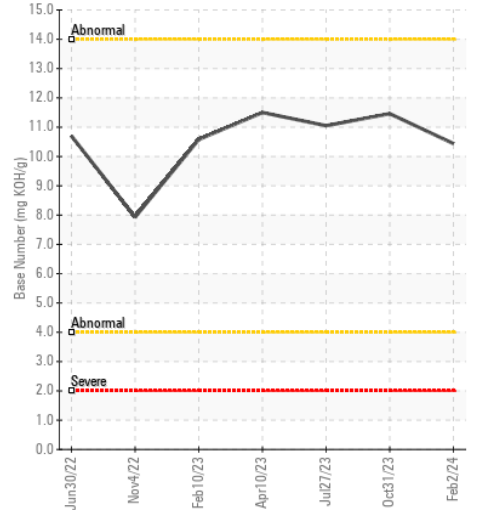
Particle Trend



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : KL0012027  
 Lab Number : 06089622  
 Unique Number : 10877067  
 Test Package : MOB 2 ( Additional Tests: FuelDilution, PercentFuel, PrtCount )

Received : 14 Feb 2024  
 Tested : 19 Feb 2024  
 Diagnosed : 19 Feb 2024 - Jonathan Hester

**CITY & COUNTY HONOLULU**  
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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)