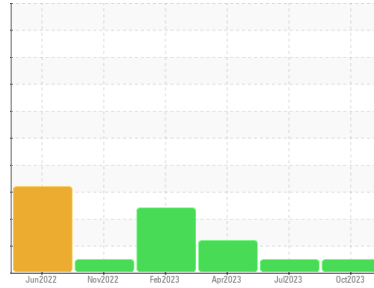




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**27321**  
 Component  
**Diesel Engine**  
 Fluid  
**NOT GIVEN (--- GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>KL0012080</b>	KL0012014	KLM2339367
Sample Date	Client Info		<b>31 Oct 2023</b>	27 Jul 2023	11 Apr 2023
Machine Age	mls	Client Info	<b>40973</b>	37846	34996
Oil Age	mls	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
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>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	<b>2</b>	15	41
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m >4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m >3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m >20	<b>1</b>	2	3
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	3	13
Tin	ppm	ASTM D5185m >15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>144</b>	79	25
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>60</b>	59	63
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>1147</b>	1110	1155
Calcium	ppm	ASTM D5185m	<b>973</b>	1074	1034
Phosphorus	ppm	ASTM D5185m	<b>1120</b>	1055	1052
Zinc	ppm	ASTM D5185m	<b>1341</b>	1302	1378
Sulfur	ppm	ASTM D5185m	<b>3736</b>	4094	3719

## CONTAMINANTS

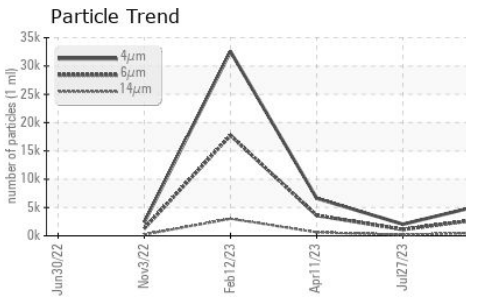
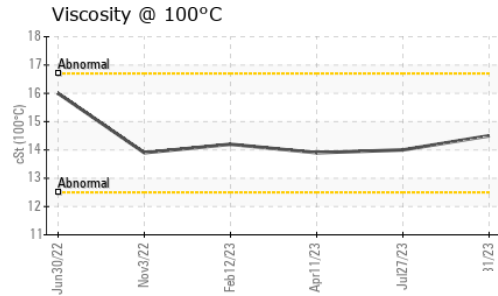
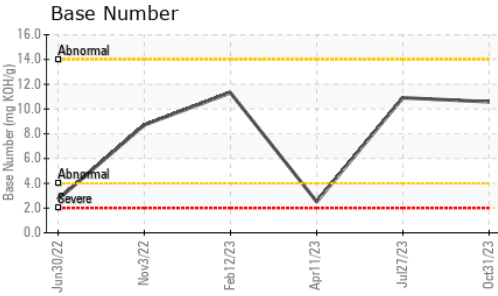
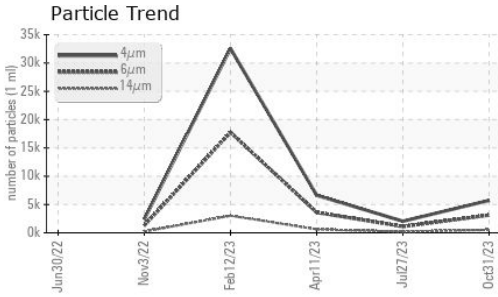
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>5</b>	5	8
Sodium	ppm	ASTM D5185m	<b>2</b>	3	4
Potassium	ppm	ASTM D5185m >20	<b>3</b>	4	9

## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.5	1.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>5.5</b>	8.2	11.5
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>18.9</b>	21.2	26.3



# OIL ANALYSIS REPORT



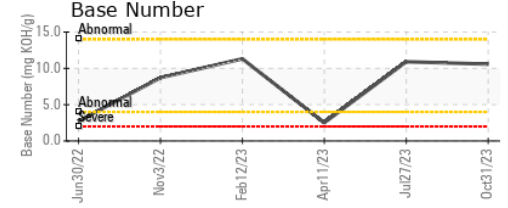
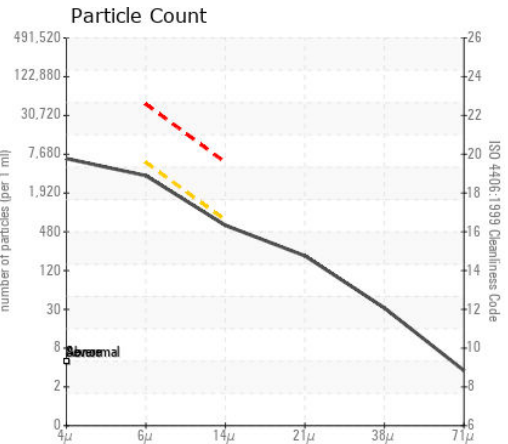
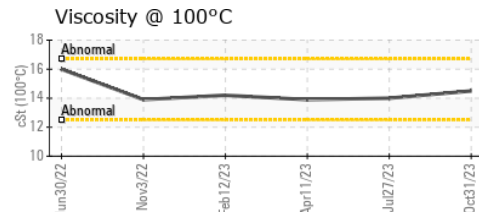
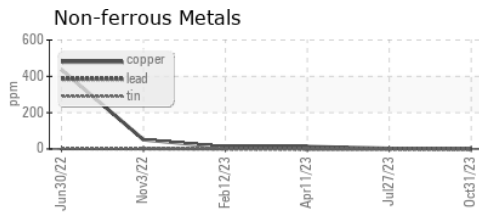
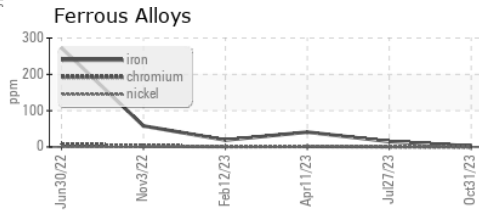
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>5724</b>	2044	6629
Particles >6µm	ASTM D7647	>5000	<b>3118</b>	1114	3611
Particles >14µm	ASTM D7647	>640	<b>531</b>	190	615
Particles >21µm	ASTM D7647	>160	<b>179</b>	64	207
Particles >38µm	ASTM D7647	>40	<b>28</b>	10	32
Particles >71µm	ASTM D7647	>10	<b>3</b>	1	3
Oil Cleanliness	ISO 4406 (c)	>19/16	<b>19/16</b>	17/15	19/16

FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	<b>14.6</b>	18.5	26.2
Base Number (BN)	mg KOH/g	ASTM D2896		<b>10.58</b>	10.91	▲ 2.51

VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG
Free Water	scalar	*Visual		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	<b>14.5</b>	14.0	13.9

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : KL0012080 **Received** : 20 Nov 2023  
**Lab Number** : 06013477 **Diagnosed** : 23 Nov 2023  
**Unique Number** : 10752621 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: PrtCount )

**CITY & COUNTY HONOLULU**  
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 F:

Certificate L2367  
 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)