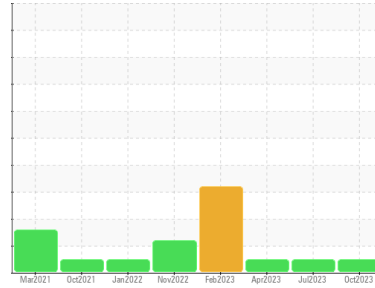




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Machine Id  
**27280**  
 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 component. The amount and size of particulates present in the system is 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>KL0012116</b>	KL0011944	KLM2339431
Sample Date	Client Info		<b>31 Oct 2023</b>	27 Jul 2023	11 Apr 2023
Machine Age	mls	Client Info	<b>46805</b>	42971	42100
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	NORMAL

## 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>8</b>	20	15
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m >4	<b>0</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>2</b>	2	<1
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >330	<b>&lt;1</b>	3	2
Tin	ppm	ASTM D5185m >15	<b>&lt;1</b>	<1	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>73</b>	69	101
Barium	ppm	ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	<b>61</b>	65	63
Manganese	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	<b>1133</b>	1120	1141
Calcium	ppm	ASTM D5185m	<b>996</b>	1014	1012
Phosphorus	ppm	ASTM D5185m	<b>1129</b>	1079	1096
Zinc	ppm	ASTM D5185m	<b>1350</b>	1312	1342
Sulfur	ppm	ASTM D5185m	<b>3580</b>	4048	4183

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	<b>4</b>	6	5
Sodium	ppm	ASTM D5185m	<b>2</b>	3	2
Potassium	ppm	ASTM D5185m >20	<b>4</b>	5	5

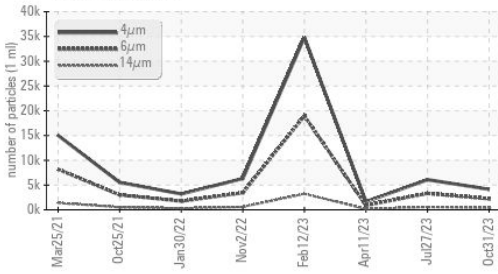
## INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.4</b>	0.5	0.4
Nitration	Abs/cm	*ASTM D7624 >20	<b>7.6</b>	8.2	7.3
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>21.4</b>	21.7	21.2

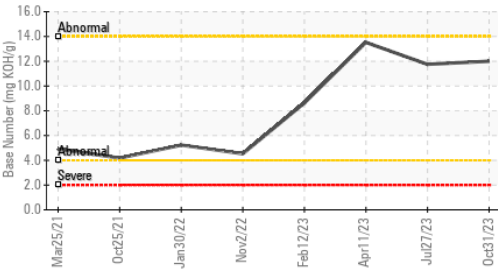


# OIL ANALYSIS REPORT

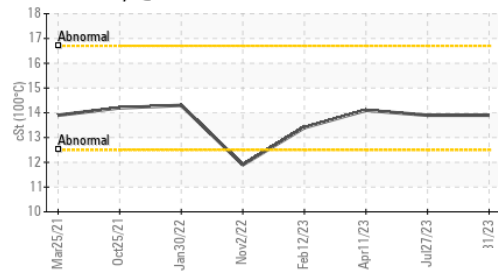
Particle Trend



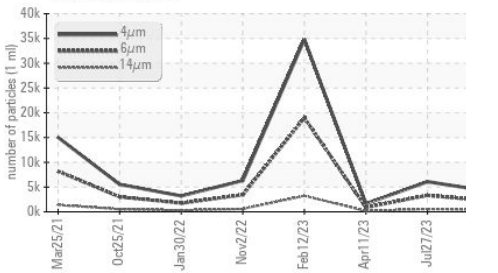
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>4124</b>	6090	1635
Particles >6µm	ASTM D7647	>5000	<b>2246</b>	3317	891
Particles >14µm	ASTM D7647	>640	<b>382</b>	565	152
Particles >21µm	ASTM D7647	>160	<b>129</b>	190	51
Particles >38µm	ASTM D7647	>40	<b>20</b>	29	8
Particles >71µm	ASTM D7647	>10	<b>2</b>	3	1
Oil Cleanliness	ISO 4406 (c)	>19/16	<b>18/16</b>	19/16	17/14

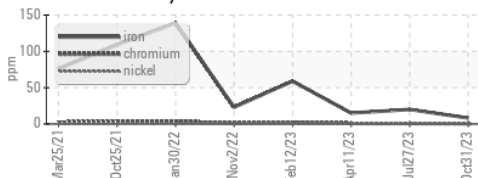
FLUID DEGRADATION	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>18.7</b>	19.3	17.6
Base Number (BN)	mg KOH/g	ASTM D2896		<b>12.00</b>	11.75	13.52

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

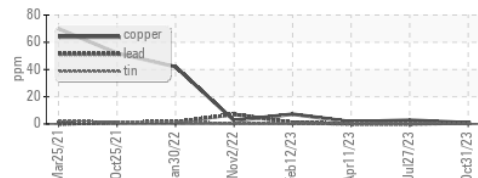
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445		<b>13.9</b>	13.9	14.1

GRAPHS

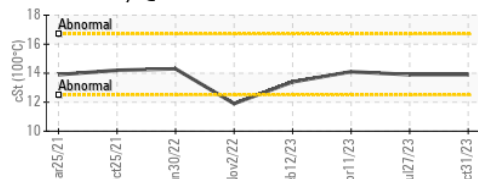
Ferrous Alloys



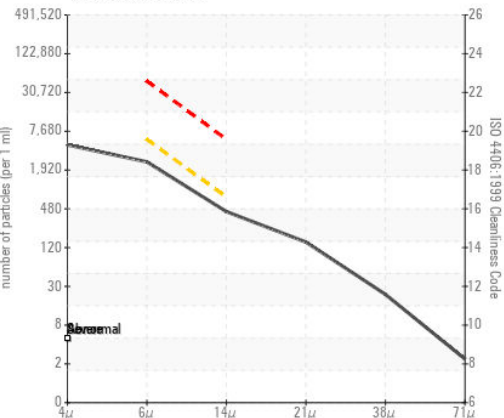
Non-ferrous Metals



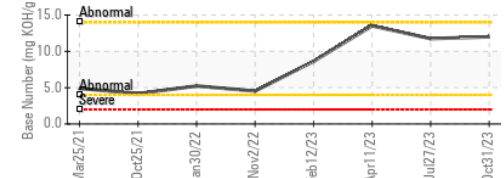
Viscosity @ 100°C



Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : KL0012116 Received : 20 Nov 2023  
 Lab Number : 06013456 Diagnosed : 23 Nov 2023  
 Unique Number : 10752600 Diagnostician : Don Baldrige  
 Test Package : MOB 2 ( Additional Tests: PrtCount )

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 comija@honolulu.gov  
 T: (575)623-9952  
 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)