



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**BLACK START**  
 Component  
**Genset**  
 Fluid  
**CAT DEO ULS 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>JIC0001341</b>	JIC0001226	JIC0001339
Sample Date		Client Info		<b>28 Jun 2024</b>	01 Jun 2024	01 May 2024
Machine Age	hrs	Client Info		<b>0</b>	0	0
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	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>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>14</b>	13	14
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	1
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	<1	2
Lead	ppm	ASTM D5185m	>17	<b>2</b>	1	2
Copper	ppm	ASTM D5185m	>70	<b>2</b>	<1	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
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.

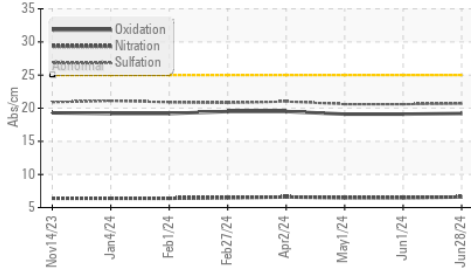
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.6</b>	6.5	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>20.7</b>	20.6	20.6
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	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

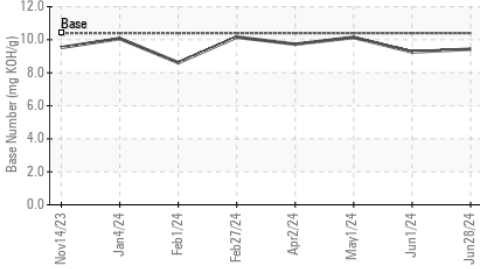
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	3	3
Boron	ppm	ASTM D5185m		<b>64</b>	57	59
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>38</b>	38	36
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>463</b>	505	428
Calcium	ppm	ASTM D5185m		<b>1789</b>	2014	1472
Phosphorus	ppm	ASTM D5185m	1000	<b>911</b>	984	728
Zinc	ppm	ASTM D5185m	1090	<b>1091</b>	1187	907
Sulfur	ppm	ASTM D5185m	3000	<b>2920</b>	3618	2485
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.2</b>	19.1	19.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.4	<b>9.43</b>	9.26	10.14
Visc @ 100°C	cSt	ASTM D445	15.0	<b>12.8</b>	12.7	12.7

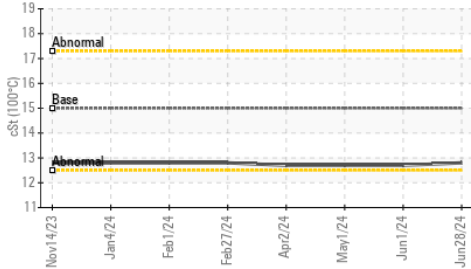
FT-IR (Direct Trend)



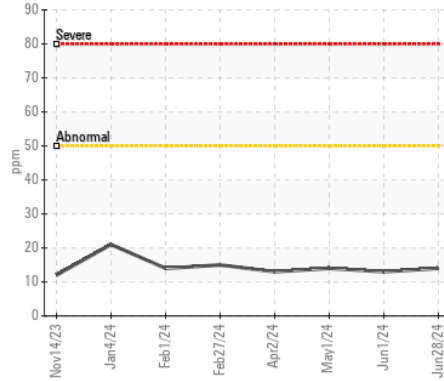
Base Number



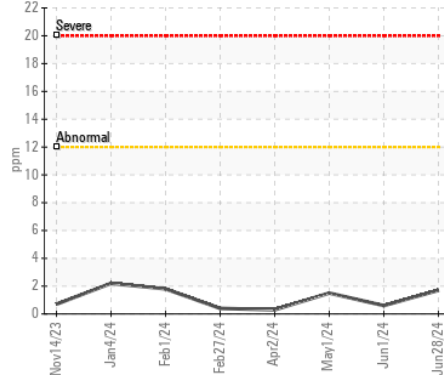
Viscosity @ 100°C



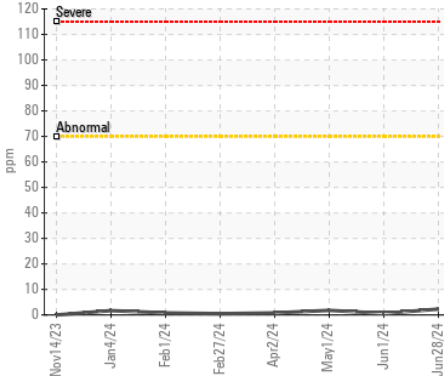
Iron (ppm)



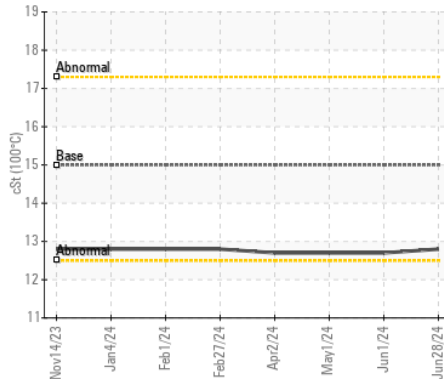
Aluminum (ppm)



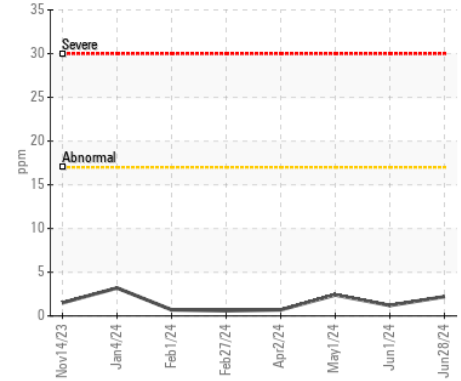
Copper (ppm)



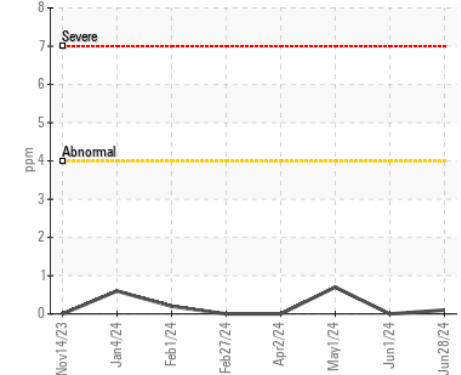
Viscosity @ 100°C



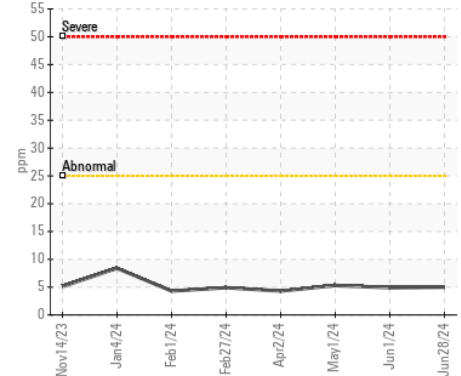
Lead (ppm)



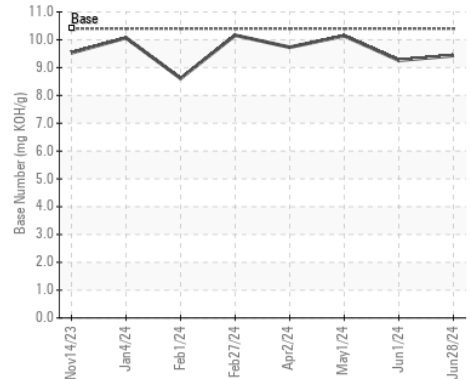
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : JIC0001341

Lab Number : 06234032

Unique Number : 11122866

Test Package : MOB 2

Received : 11 Jul 2024

Tested : 12 Jul 2024

Diagnosed : 12 Jul 2024 - Wes Davis

ABBVIE LTD UTILITES DIVISION

ROAD NO 2 KM M59.2

BARCELONETA, PR

PR 00617

Contact: NOEL VALENTIN

noel.valentin@abbvie.com

T:

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)