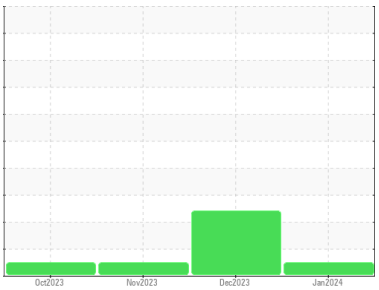
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
CATERPILLAR 3512 ULB McClave compressor (S/N 7NJ00728)
Component
Natural Gas Engine
Fluid
LO-ASH ENGINE OIL SAE 40 (86 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KL0013068**	KL0013065	KL0011510
Sample Date		Client Info		**11 Jan 2024**	05 Dec 2023	02 Nov 2023
Machine Age	hrs	Client Info		**85274**	84502	83732
Oil Age	hrs	Client Info		**85274**	84502	83732
Oil Changed		Client Info		**Filtered**	Filtered	Filtered
Sample Status				**NORMAL**	ABNORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**11**	<1	2
Chromium	ppm	ASTM D5185m	>4	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	**2**	<1	2
Lead	ppm	ASTM D5185m	>30	**<1**	0	0
Copper	ppm	ASTM D5185m	>35	**2**	0	<1
Tin	ppm	ASTM D5185m	>4	**<1**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

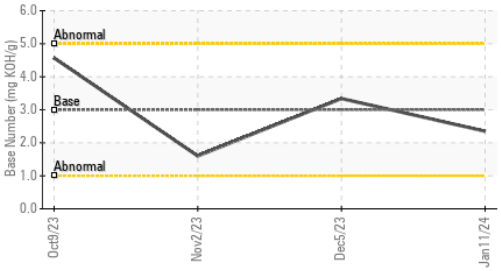
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	37	**3**	3	<1
Barium	ppm	ASTM D5185m	12	**1**	0	0
Molybdenum	ppm	ASTM D5185m	200	**17**	19	25
Manganese	ppm	ASTM D5185m		**0**	0	0
Magnesium	ppm	ASTM D5185m	5	**19**	20	28
Calcium	ppm	ASTM D5185m	1600	**1271**	1481	1395
Phosphorus	ppm	ASTM D5185m	300	**351**	324	312
Zinc	ppm	ASTM D5185m	400	**361**	407	403
Sulfur	ppm	ASTM D5185m	2600	**3674**	3450	2959

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**4**	2	2
Sodium	ppm	ASTM D5185m		**<1**	0	0
Potassium	ppm	ASTM D5185m	>20	**2**	0	2

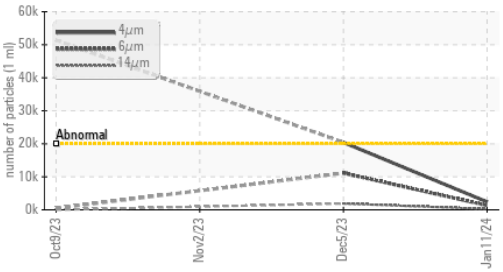
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0
Nitration	Abs/cm	*ASTM D7624	>20	**5.1**	5.2	5.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.8**	18.5	16.9

OIL ANALYSIS REPORT

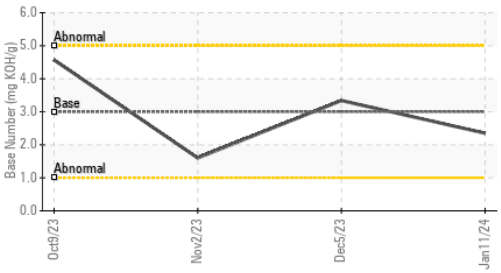
Base Number



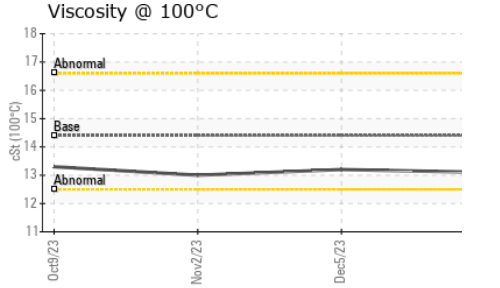
Particle Trend



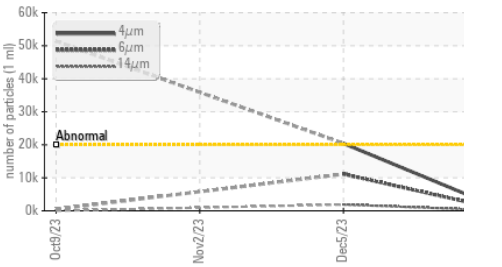
Base Number



Viscosity @ 100°C



Particle Trend



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	**2401**	▲ 20409	---
Particles >6µm		ASTM D7647	>5000	**1308**	▲ 11118	---
Particles >14µm		ASTM D7647	>640	**223**	▲ 1892	---
Particles >21µm		ASTM D7647	>160	**75**	▲ 637	---
Particles >38µm		ASTM D7647	>40	**12**	▲ 98	---
Particles >71µm		ASTM D7647	>10	**1**	10	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	**18/18/15**	▲ 22/21/18	---

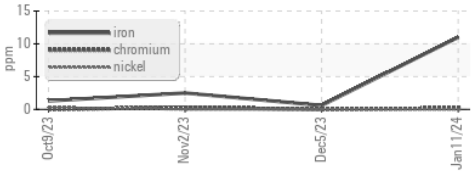
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.4**	12.9	11.3
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.53**	1.54	---
Base Number (BN)	mg KOH/g	ASTM D2896	3.0	**2.35**	3.34	1.6

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

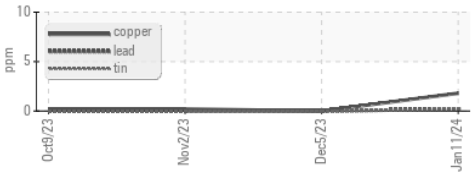
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	**13.1**	13.2	13.0

GRAPHS

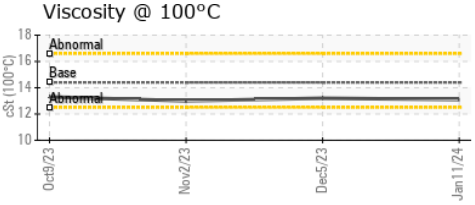
Ferrous Alloys



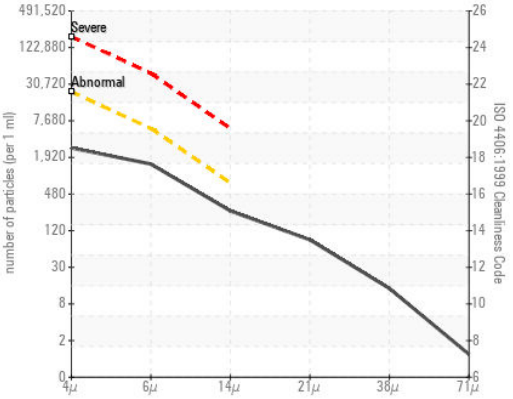
Non-ferrous Metals



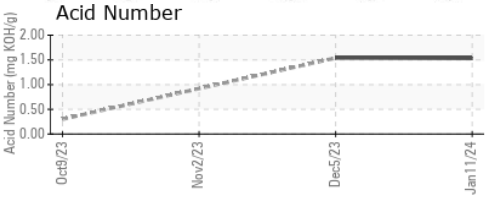
Viscosity @ 100°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013068 **Recieved** : 18 Jan 2024
Lab Number : 06065107 **Diagnosed** : 22 Jan 2024
Unique Number : 10836489 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: PrtCount)

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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Report Id: STRENG [WUSCAR] 06065107 (Generated: 01/22/2024 17:48:46) Rev: 1

Submitted By: ANGELO VALDEZ