



# WEAR CHECK

## OIL ANALYSIS REPORT

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



Area

### LOADER

Machine Id

### CATERPILLAR 938M CL-02 (S/N J3R06338)

Component

### Diesel Engine

Fluid

### CHEVRON DELO 400 MULTIGRADE 15W40 (--- QTS)

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0759320</b>	WC0482181	WC0482145
Sample Date		Client Info		<b>06 Jun 2024</b>	16 Mar 2021	06 Oct 2020
Machine Age	hrs	Client Info		<b>3020</b>	1732	1425
Oil Age	hrs	Client Info		<b>500</b>	250	250
Filter Age	hrs	Client Info		<b>500</b>	250	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>27</b>	36	61
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	3
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	1
Titanium	ppm	ASTM D5185m	>2	<b>11</b>	5	2
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>8</b>	22	▲ 47
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	1	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
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.

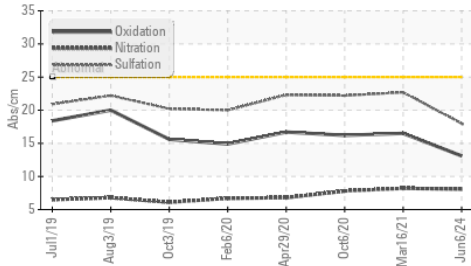
Silicon	ppm	ASTM D5185m	>25	<b>4</b>	5	7
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	17	20
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	8.2	7.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.0</b>	22.7	22.2
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

### FLUID CONDITION

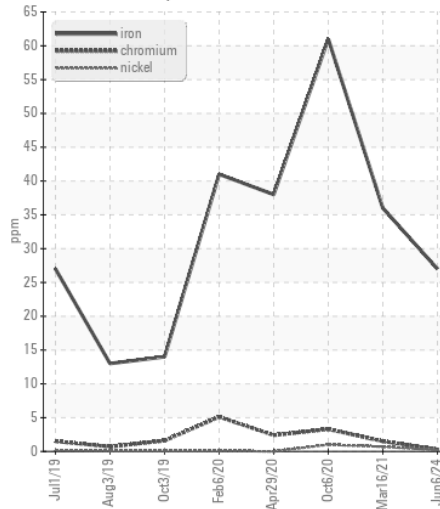
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>4</b>	3	3
Boron	ppm	ASTM D5185m	151	<b>94</b>	232	274
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	250	<b>39</b>	87	98
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>705</b>	655	588
Calcium	ppm	ASTM D5185m	2046	<b>1436</b>	1674	1679
Phosphorus	ppm	ASTM D5185m	1043	<b>753</b>	774	849
Zinc	ppm	ASTM D5185m	943	<b>840</b>	839	943
Sulfur	ppm	ASTM D5185m	5012	<b>3574</b>	2356	2530
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.1</b>	16.5	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>7.7</b>	9.8	8.8
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.6</b>	13.5	13.7

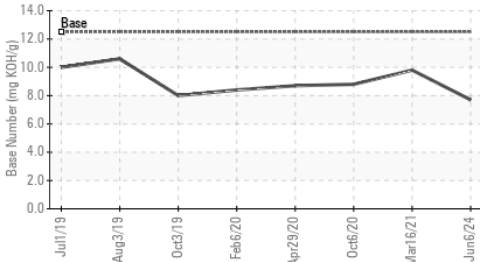
**FT-IR (Direct Trend)**



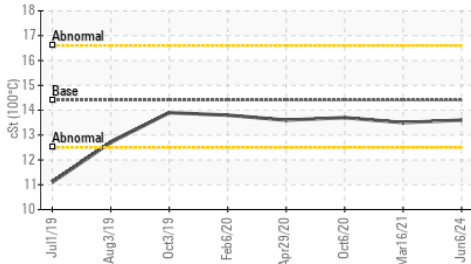
**Ferrous Alloys**



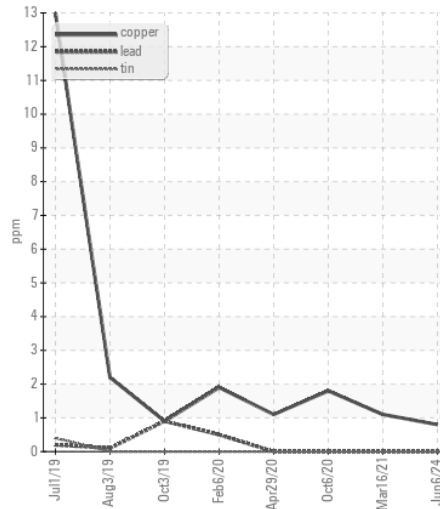
**Base Number**



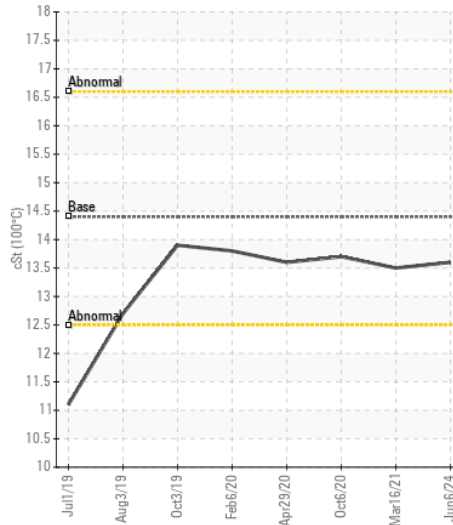
**Viscosity @ 100°C**



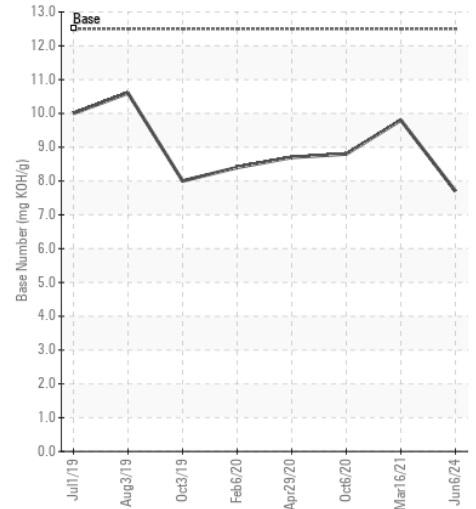
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0759320  
**Lab Number** : 06212773  
**Unique Number** : 11085637  
**Test Package** : FLEET

**Received** : 17 Jun 2024  
**Tested** : 19 Jun 2024  
**Diagnosed** : 19 Jun 2024 - Wes Davis

**ASSOCIATED TERMINALS - MOBILE EQUIPMENT**

LAPLACE, LA  
 US 70068

Contact: LONNIE BECNEL  
 lbecnel@associatedterminals.com

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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