



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	SEVERE



Machine Id  
**CATERPILLAR 5605**  
Component  
**Diesel Engine**  
Fluid  
**GIBRALTAR 15W/40 SUPER S-3 LX (--- GAL)**

## RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0840506</b>	WC0864760	WC0840501
Sample Date		Client Info		<b>15 Dec 2023</b>	02 Dec 2023	26 Oct 2023
Machine Age	hrs	Client Info		<b>11256</b>	24287	10837
Oil Age	hrs	Client Info		<b>348</b>	0	250
Filter Age	hrs	Client Info		<b>0</b>	0	250
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>SEVERE</b>	NORMAL	SEVERE

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>4</b>	4	18
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	3	7
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	1
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	0	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

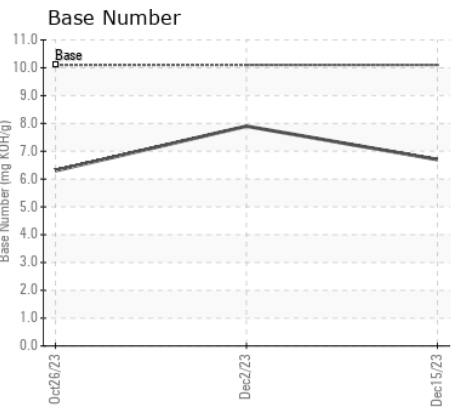
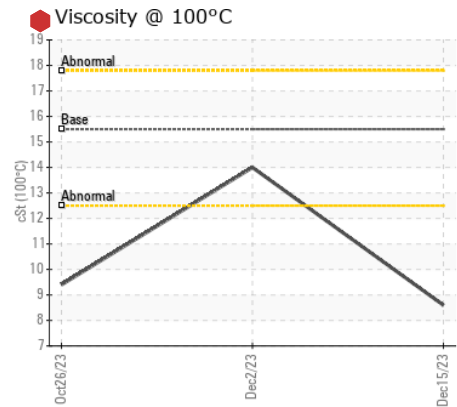
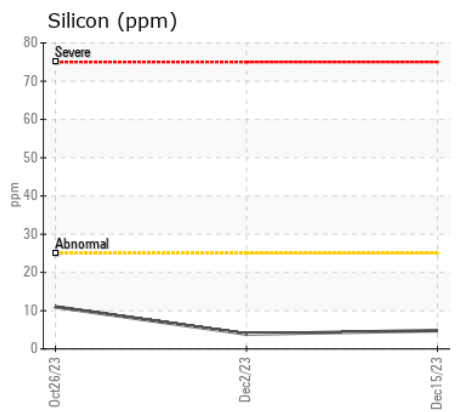
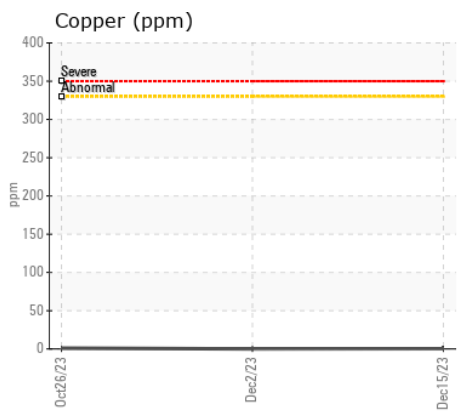
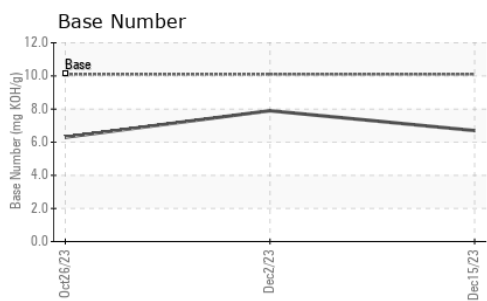
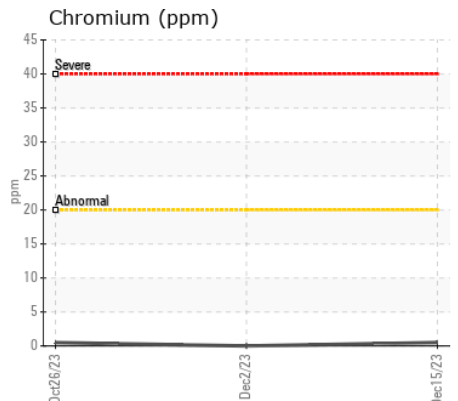
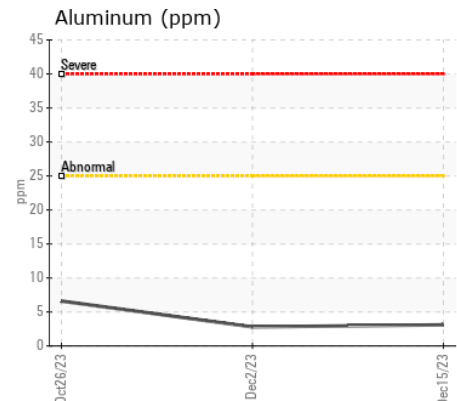
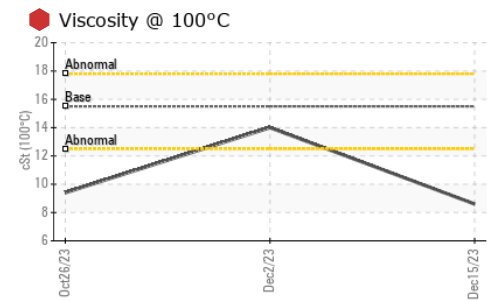
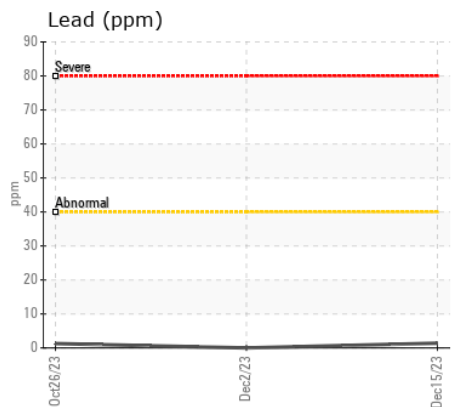
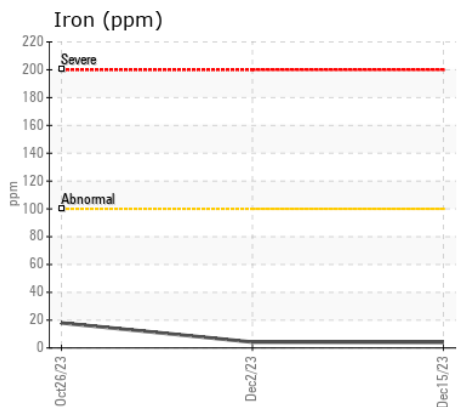
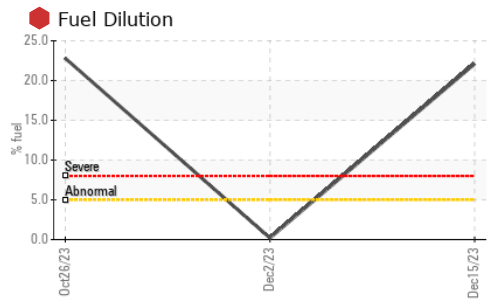
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	4	11
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	2
Fuel	%	ASTM D3524	>5	<b>22.1</b>	0.2	<b>22.8</b>
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	0.3	0.7
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	6.1	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.5</b>	17.4	18.4
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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>&lt;1</b>	1	0
Boron	ppm	ASTM D5185m		<b>8</b>	11	4
Barium	ppm	ASTM D5185m		<b>0</b>	0	2
Molybdenum	ppm	ASTM D5185m	66	<b>53</b>	50	52
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	1000	<b>561</b>	829	570
Calcium	ppm	ASTM D5185m	1050	<b>904</b>	1064	1003
Phosphorus	ppm	ASTM D5185m	1150	<b>783</b>	899	732
Zinc	ppm	ASTM D5185m	1270	<b>888</b>	1117	922
Sulfur	ppm	ASTM D5185m		<b>2391</b>	2974	2776
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>12.3</b>	12.9	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>6.7</b>	7.9	6.3
Visc @ 100°C	cSt	ASTM D445	15.5	<b>8.6</b>	14.0	9.4



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0840506 **Received** : 01 Feb 2024  
**Lab Number** : 06077376 **Tested** : 05 Feb 2024  
**Unique Number** : 10859467 **Diagnosed** : 05 Feb 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**INTERSTATE WASTE-NEW BRUNSWICK**  
 986 JERSEY AVE  
 NEW BRUNSWICK, NJ  
 US 08901  
 Contact: Service Manager

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)

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F: