



# OIL ANALYSIS REPORT

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

Machine Id  
**CATERPILLAR D3 105**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0917185</b>	WC0517500	WC0822414
Sample Date		Client Info		<b>08 Jun 2024</b>	21 Aug 2023	17 May 2023
Machine Age	hrs	Client Info		<b>7710</b>	7460	7210
Oil Age	hrs	Client Info		<b>250</b>	250	215
Filter Age	hrs	Client Info		<b>250</b>	250	215
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>12</b>	13	9
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	4	1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>2</b>	4	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	<1
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

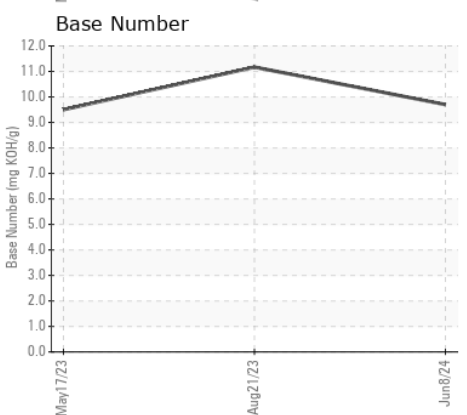
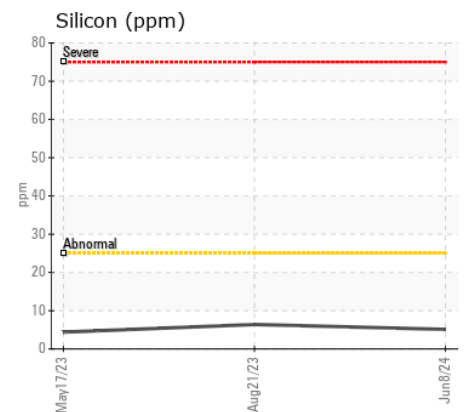
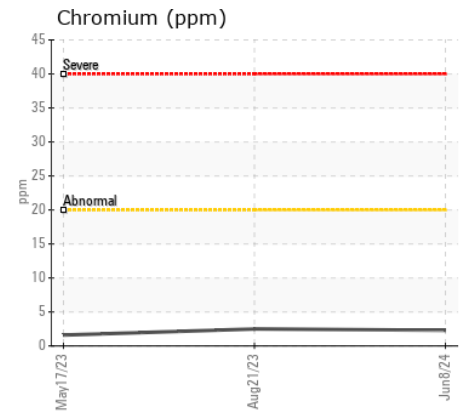
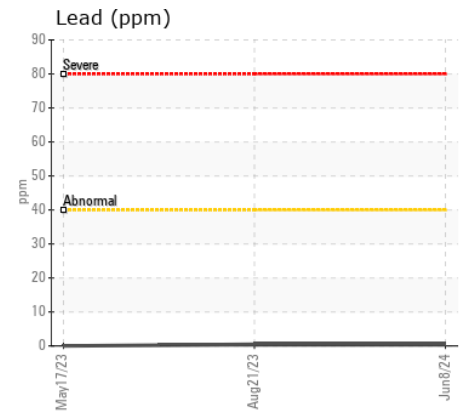
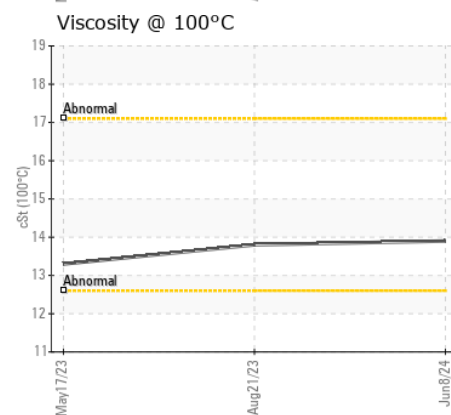
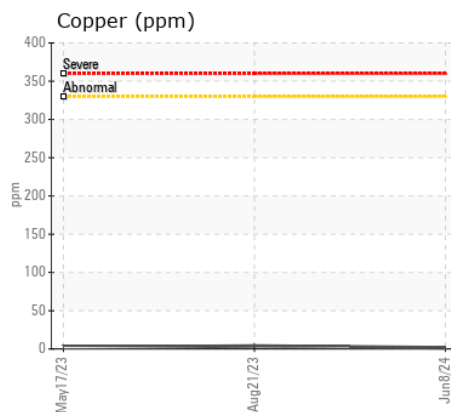
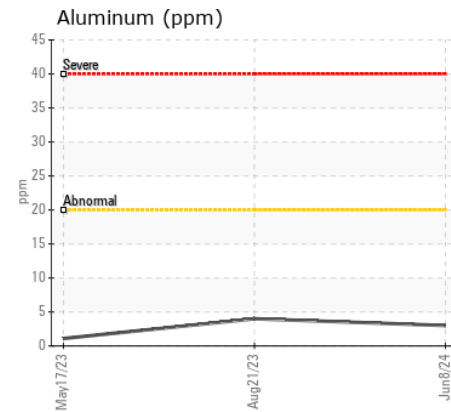
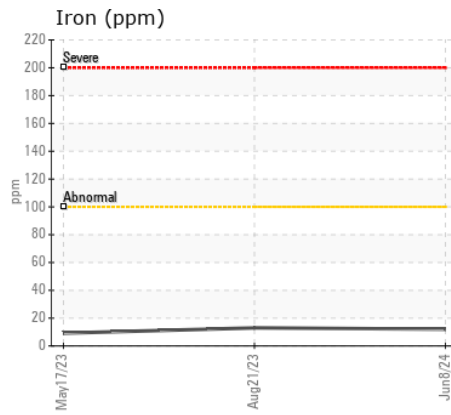
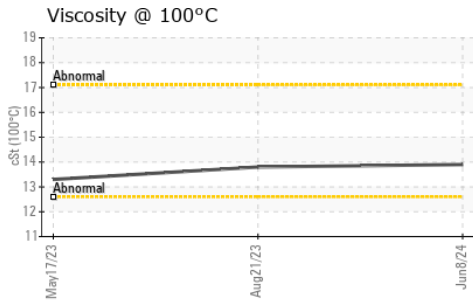
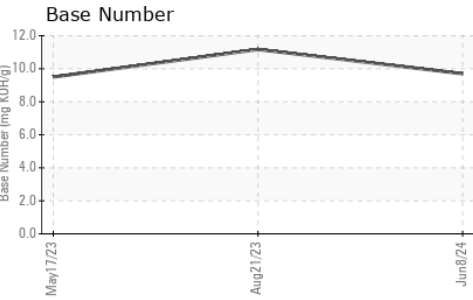
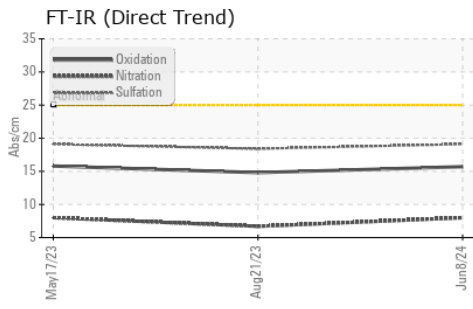
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	6	4
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	7	32
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>0.2</b>	0.1	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.0</b>	6.7	8.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.1</b>	18.4	19.1
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>3</b>	7	41
Boron	ppm	ASTM D5185m		<b>8</b>	6	11
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>69</b>	65	62
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>1098</b>	952	1011
Calcium	ppm	ASTM D5185m		<b>1264</b>	1148	1138
Phosphorus	ppm	ASTM D5185m		<b>973</b>	1058	1100
Zinc	ppm	ASTM D5185m		<b>1392</b>	1245	1332
Sulfur	ppm	ASTM D5185m		<b>3714</b>	3276	3809
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.7</b>	14.8	15.8
Base Number (BN)	mg KOH/g	ASTM D2896		<b>9.7</b>	11.17	9.5
Visc @ 100°C	cSt	ASTM D445		<b>13.9</b>	13.8	13.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0917185 **Received** : 27 Jun 2024  
**Lab Number** : 06222129 **Tested** : 28 Jun 2024  
**Unique Number** : 11100326 **Diagnosed** : 28 Jun 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**C.L. BENTON & SONS INC**  
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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)