



# OIL ANALYSIS REPORT

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



Machine Id  
**CATERPILLAR 416 136**  
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>WC0917332</b>	WC0906040	WC0792816
Sample Date		Client Info		<b>24 May 2024</b>	28 Feb 2024	09 Nov 2023
Machine Age	hrs	Client Info		<b>17721</b>	17342	81074
Oil Age	hrs	Client Info		<b>250</b>	249	5000
Filter Age	hrs	Client Info		<b>250</b>	249	5000
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Changed</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>22</b>	42	22
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	5	5
Lead	ppm	ASTM D5185m	>40	<b>0</b>	3	0
Copper	ppm	ASTM D5185m	>330	<b>0</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	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

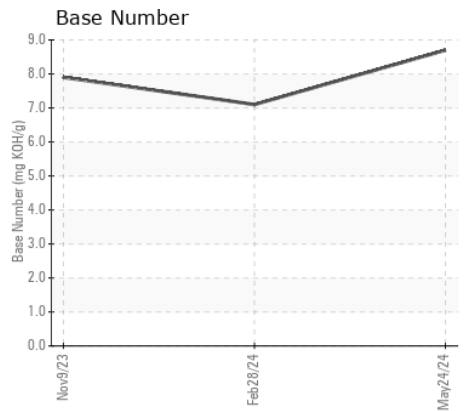
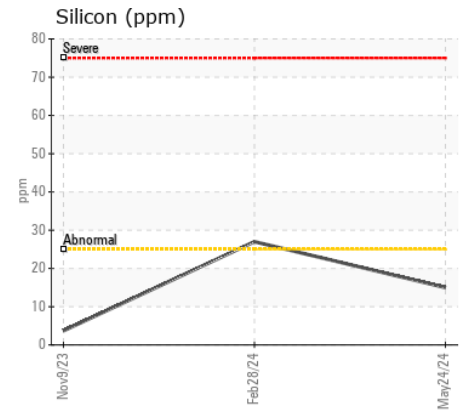
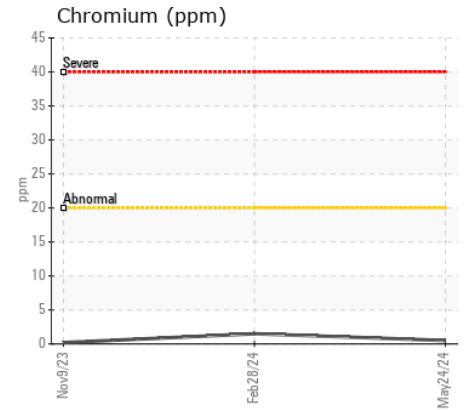
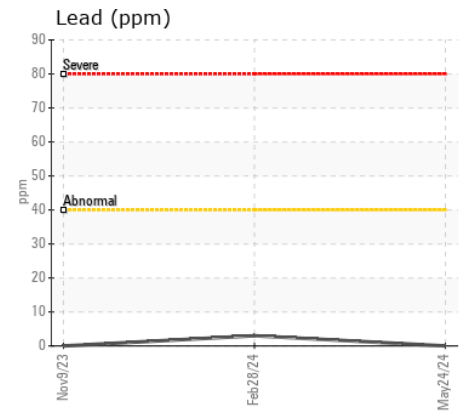
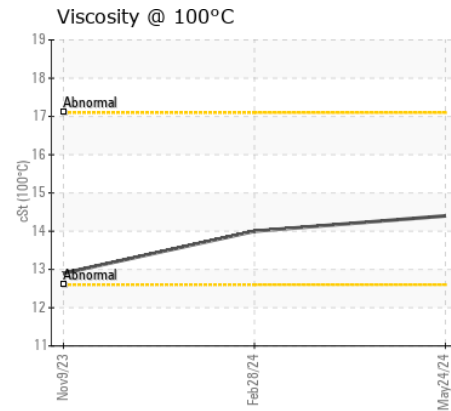
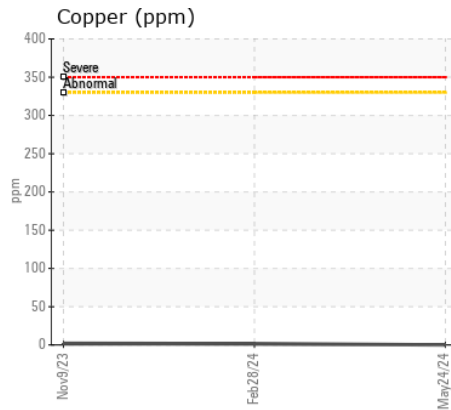
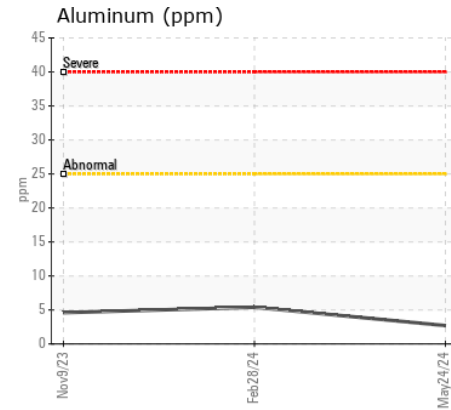
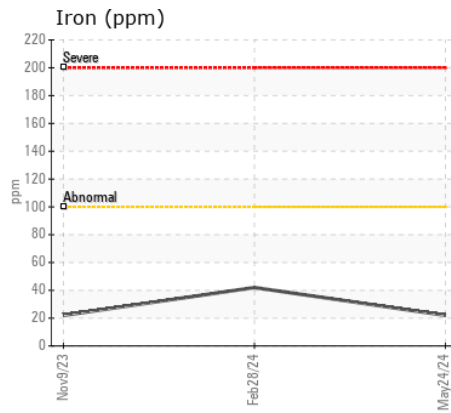
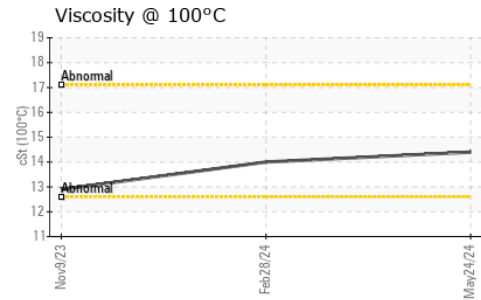
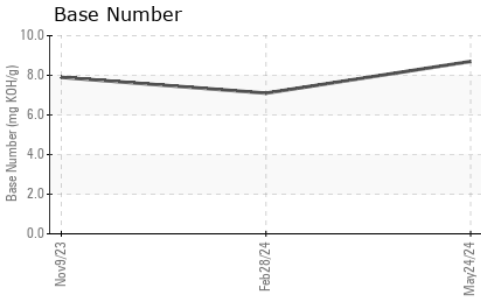
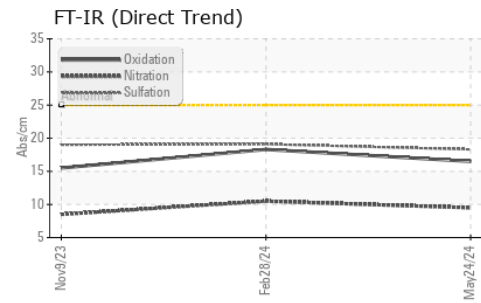
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>15</b>	27	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	4	6
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>	0.2	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.5</b>	10.5	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.3</b>	19.1	19.0
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>5</b>	5	0
Boron	ppm	ASTM D5185m		<b>4</b>	4	10
Barium	ppm	ASTM D5185m		<b>0</b>	0	<1
Molybdenum	ppm	ASTM D5185m		<b>59</b>	62	62
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>927</b>	1002	854
Calcium	ppm	ASTM D5185m		<b>1010</b>	1281	1087
Phosphorus	ppm	ASTM D5185m		<b>1003</b>	1114	940
Zinc	ppm	ASTM D5185m		<b>1223</b>	1327	1176
Sulfur	ppm	ASTM D5185m		<b>3422</b>	3431	3237
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.5</b>	18.3	15.5
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.7</b>	7.1	7.90
Visc @ 100°C	cSt	ASTM D445		<b>14.4</b>	14.0	12.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0917332 **Received** : 27 Jun 2024  
**Lab Number** : 06222150 **Tested** : 28 Jun 2024  
**Unique Number** : 11100347 **Diagnosed** : 28 Jun 2024 - Wes Davis  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**C.L. BENTON & SONS INC**  
 706 38TH AVE N  
 MYRTLE BEACH, SC  
 US 29577  
 Contact: JAMIE HUCKS  
 shop@clbenton.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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F: