



# LUBE PLUS+

## OIL ANALYSIS REPORT

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



Area  
**LOADER**  
Machine Id  
**CATERPILLAR 05-02020-043**  
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>LP0000017</b>	LP0000147	WC0661805
Sample Date		Client Info		<b>04 Jan 2024</b>	28 Sep 2023	28 Feb 2023
Machine Age	hrs	Client Info		<b>14648</b>	14006	13052
Oil Age	hrs	Client Info		<b>642</b>	0	642
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Not Changd</b>	N/A	Not Changd
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>28</b>	5	13
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	<1	<1
Lead	ppm	ASTM D5185m	>40	<b>5</b>	<1	1
Copper	ppm	ASTM D5185m	>330	<b>8</b>	2	7
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

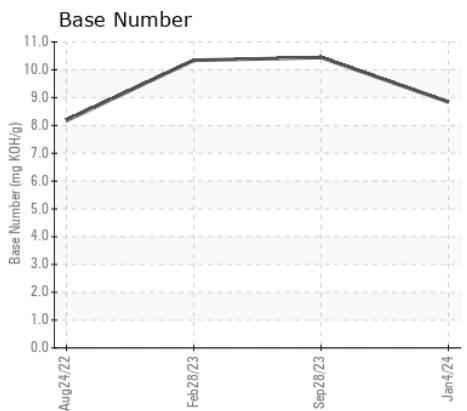
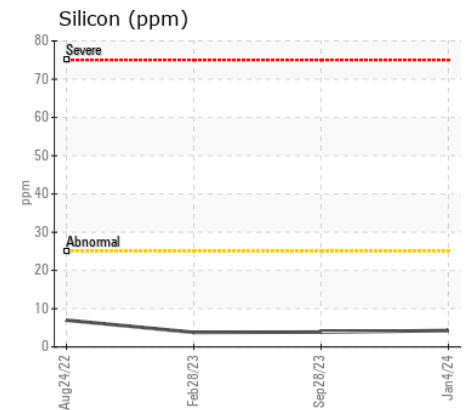
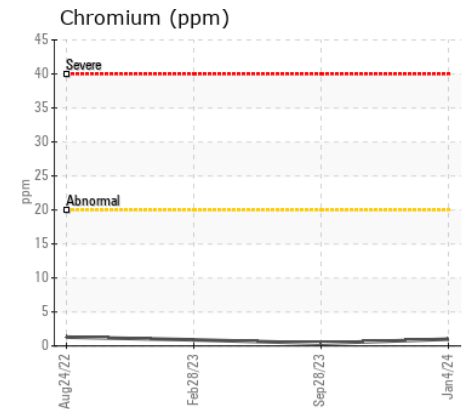
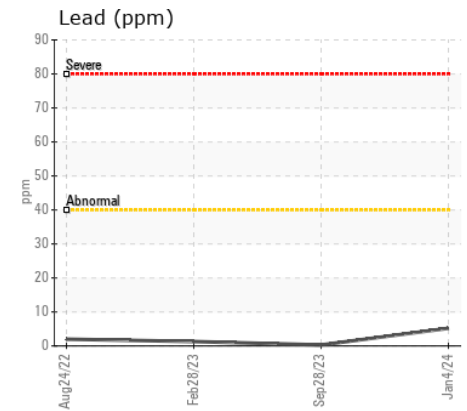
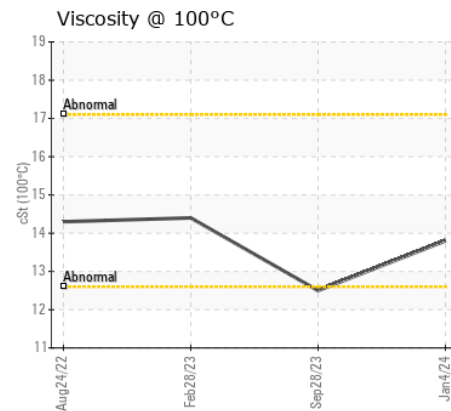
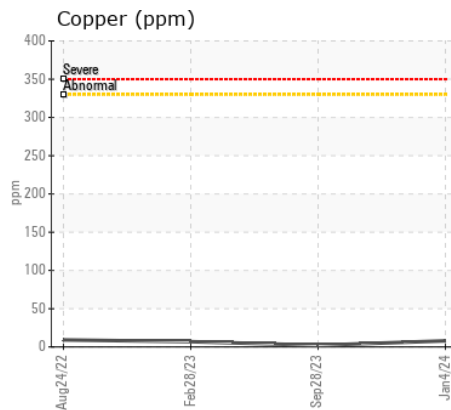
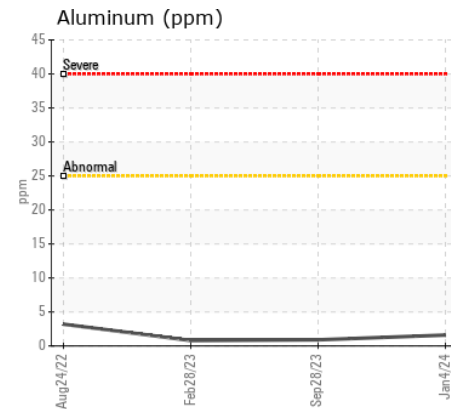
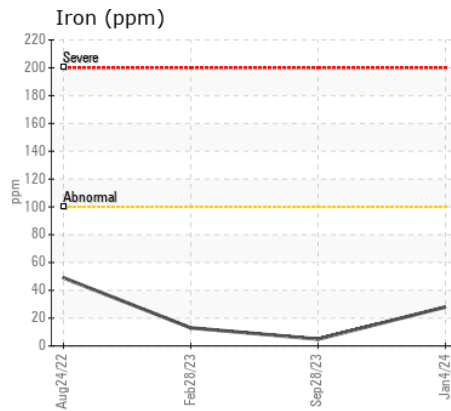
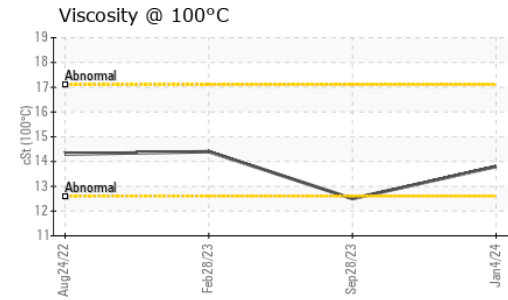
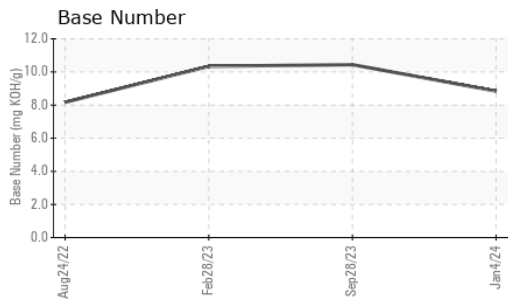
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	<1	3
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>0.5</b>	0.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>13.0</b>	6.7	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>26.7</b>	19.1	22.4
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. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	2	2
Boron	ppm	ASTM D5185m		<b>10</b>	14	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>73</b>	64	59
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>1042</b>	851	1002
Calcium	ppm	ASTM D5185m		<b>1225</b>	1101	1153
Phosphorus	ppm	ASTM D5185m		<b>1144</b>	979	1037
Zinc	ppm	ASTM D5185m		<b>1385</b>	1186	1318
Sulfur	ppm	ASTM D5185m		<b>3254</b>	3091	3488
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>25.9</b>	14.5	19.3
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.84</b>	10.44	10.34
Visc @ 100°C	cSt	ASTM D445		<b>13.8</b>	12.5	14.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LP0000017 **Received** : 12 Jan 2024  
**Lab Number** : 06060402 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831784 **Diagnostician** : Don Baldrige  
**Test Package** : MOB 2

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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