



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



Area  
**Haul Truck**  
Machine Id  
**HT4501**  
Component  
**Rear Differential**  
Fluid  
**PETRO CANADA PRODURO FD-1 60 (83 LTR)**

**RECOMMENDATION**

We recommend that you drain the oil from the component if this has not already been done. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

**WEAR**

Copper and tin ppm levels are abnormal. Thrust washer and/or bearing/bushing wear is indicated.

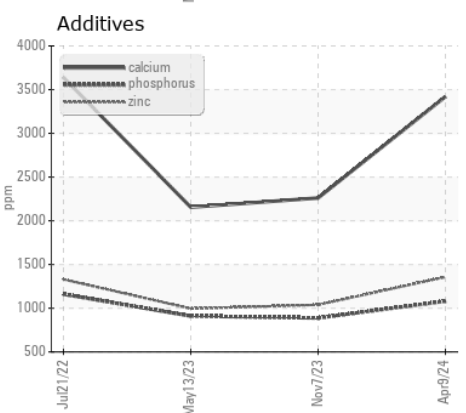
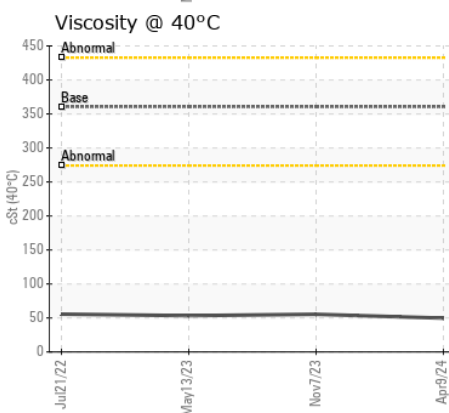
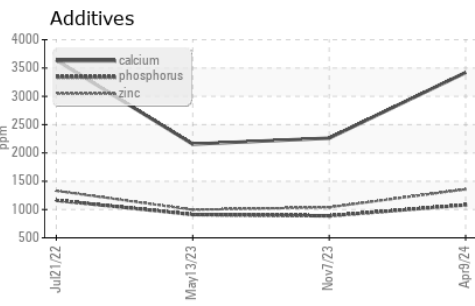
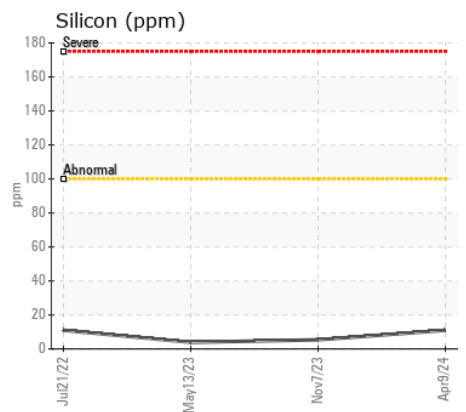
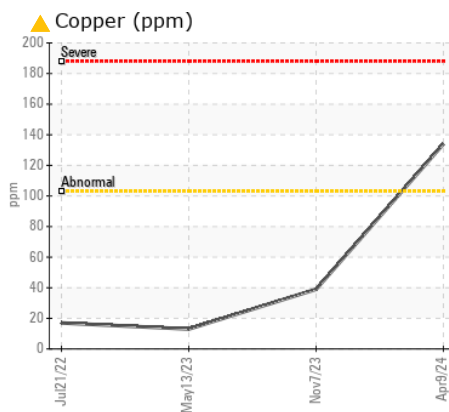
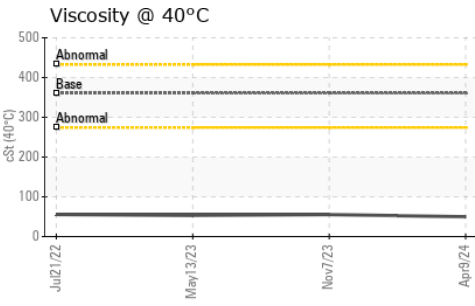
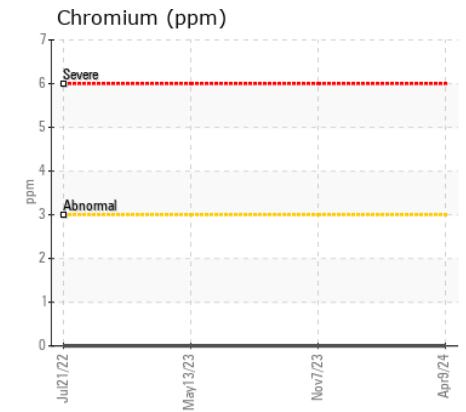
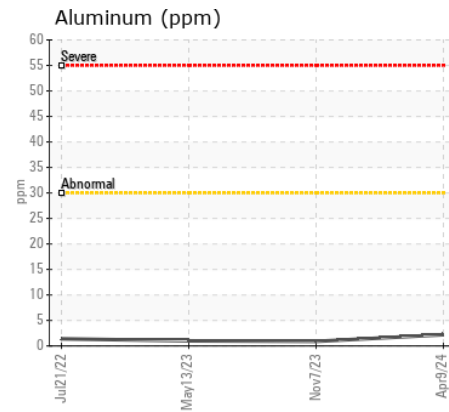
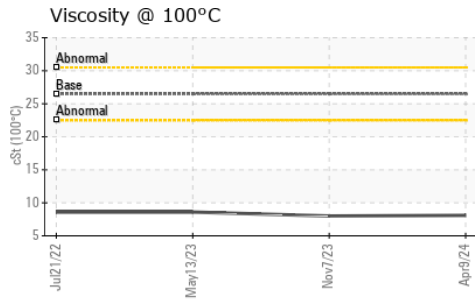
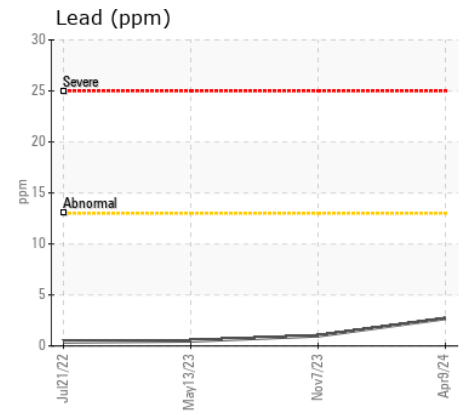
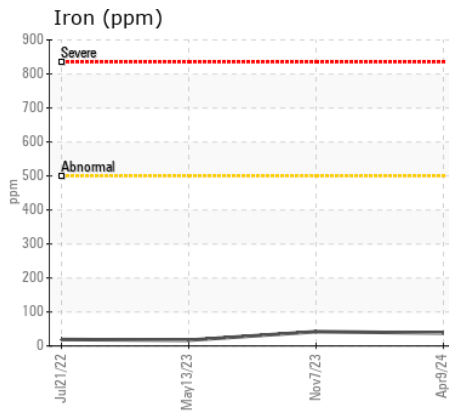
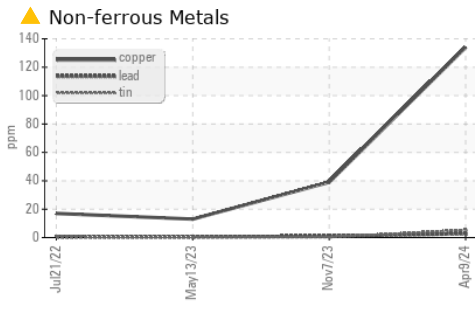
**CONTAMINATION**

There is no indication of any contamination in the oil.

**FLUID CONDITION**

Additive levels indicate the addition of a different brand, or type of oil. Viscosity of sample indicates oil is within SAE 75W80 range, advise investigate. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PC0084716</b>	PC0067053	PC0051407
Sample Date		Client Info		<b>09 Apr 2024</b>	07 Nov 2023	13 May 2023
Machine Age	hrs	Client Info		<b>9874</b>	8391	6383
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>500	<b>38</b>	42	17
Chromium	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185(m)	>30	<b>2</b>	<1	1
Lead	ppm	ASTM D5185(m)	>13	<b>3</b>	1	<1
Copper	ppm	ASTM D5185(m)	>103	<b>▲ 134</b>	39	13
Tin	ppm	ASTM D5185(m)	>5	<b>▲ 5</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>LIGHT</b>	<b>▲ LTMOD</b>	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>100	<b>11</b>	5	4
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	2
Water		WC Method	>.2	<b>NEG</b>	NEG	NEG
Silt	scalar	Visual*	NONE	<b>LIGHT</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*	>.2	<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Boron	ppm	ASTM D5185(m)	92	<b>90</b>	4	5
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	<1
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>16</b>	13	13
Calcium	ppm	ASTM D5185(m)	283	<b>3420</b>	2261	2155
Phosphorus	ppm	ASTM D5185(m)	306	<b>1080</b>	888	911
Zinc	ppm	ASTM D5185(m)	0	<b>1357</b>	1039	995
Sulfur	ppm	ASTM D5185(m)	9080	<b>2631</b>	3480	3481
Visc @ 40°C	cSt	ASTM D7279(m)	360.6	<b>49.7</b>	55.4	53.4
Visc @ 100°C	cSt	ASTM D7279(m)	26.49	<b>8.1</b>	8	8.6
Viscosity Index (VI)	Scale	ASTM D2270*	98	<b>134</b>	111	136



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0084716 **Received** : 12 Apr 2024  
**Lab Number** : 02628526 **Tested** : 12 Apr 2024  
**Unique Number** : 5761658 **Diagnosed** : 12 Apr 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KV100, VI )

**Lakeshore Gold Timmins West**  
 Timmins, ON  
 CA  
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To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.