

Machine Id  
**WACKER 88-14**  
Component  
**Front Diesel Engine**  
Fluid  
**PETRO CANADA 15W40 (8 LTR)**

**RECOMMENDATION**

We advise that you check for faulty combustion and a possible overheat condition. We advise that you check the engine tuning and timing. The oil change at the time of sampling has been noted.

**WEAR**

All component wear rates are normal.

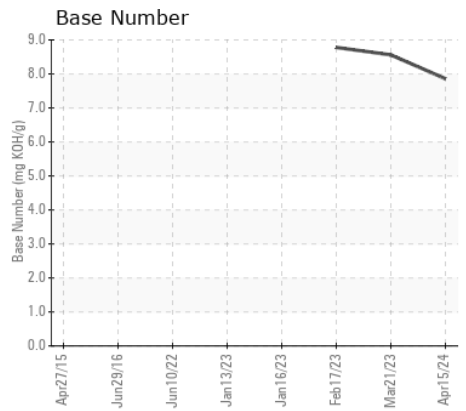
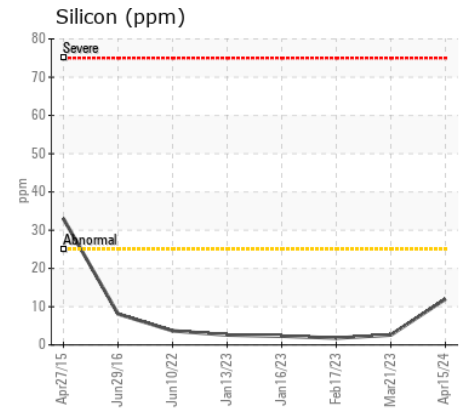
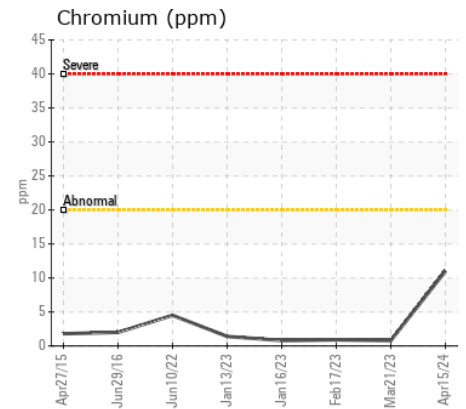
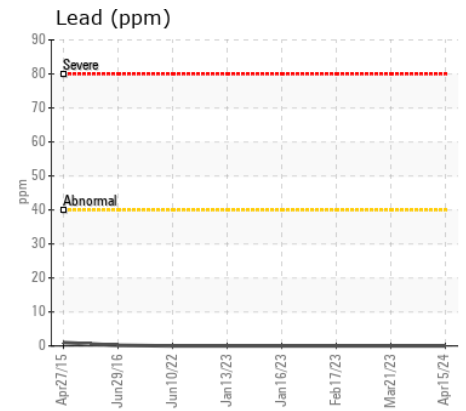
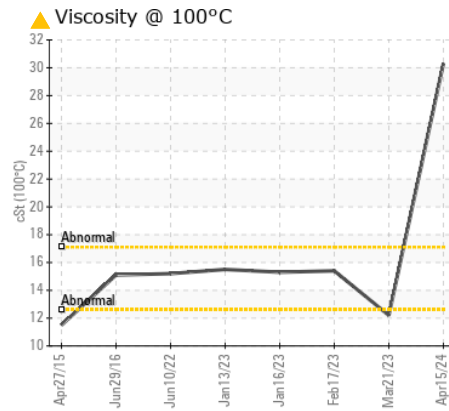
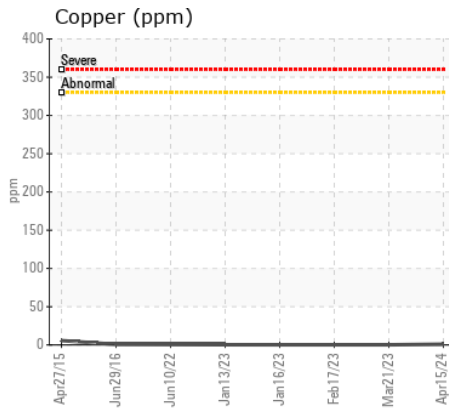
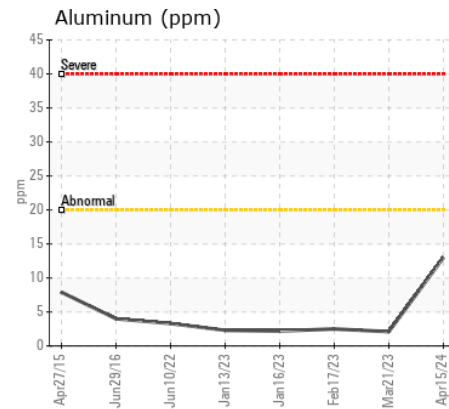
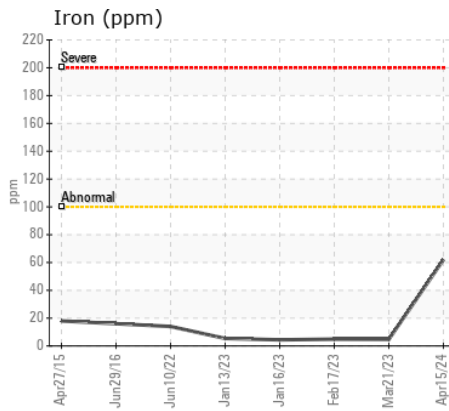
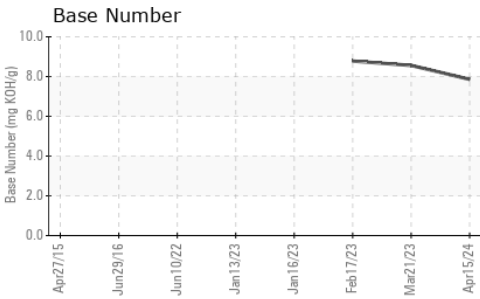
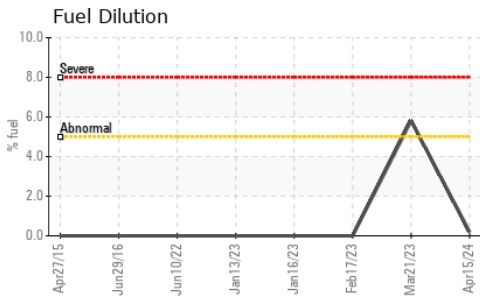
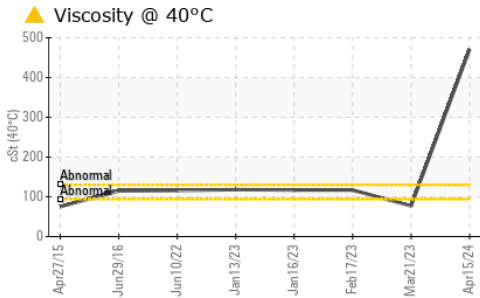
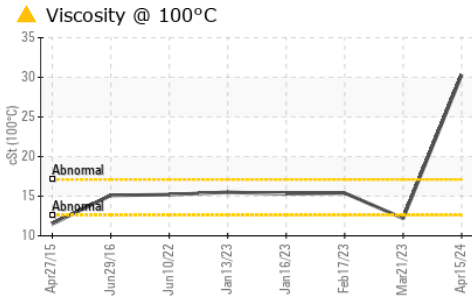
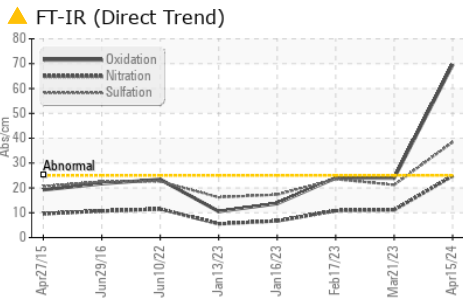
**CONTAMINATION**

There is an abnormal level of nitration indicated. There is an abnormal level of sulfation indicated. Fuel content negligible.

**FLUID CONDITION**

A small degree of oil oxidation was indicated. The BN result indicates that there is suitable alkalinity remaining in the oil. Viscosity of sample indicates oil is within ISO 460 range, advise investigate. The oil is no longer serviceable.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PC0074280</b>	PC0069147	PC0062018
Sample Date		Client Info		<b>15 Apr 2024</b>	21 Mar 2023	17 Feb 2023
Machine Age	hrs	Client Info		<b>5441</b>	9567	8807
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>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185(m)	>100	<b>62</b>	5	5
Chromium	ppm	ASTM D5185(m)	>20	<b>11</b>	<1	<1
Nickel	ppm	ASTM D5185(m)	>4	<b>&lt;1</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>3</b>	<1	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>13</b>	2	2
Lead	ppm	ASTM D5185(m)	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>330	<b>1</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	0	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silicon	ppm	ASTM D5185(m)	>25	<b>12</b>	3	2
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Fuel	%	ASTM D7593*	>5	<b>0.2</b>	▲ 5.8	<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	0
Nitration	Abs/cm	ASTM D7624*	>20	▲ <b>24.8</b>	11.1	10.8
Sulfation	Abs/.1mm	ASTM D7415*	>30	▲ <b>38.4</b>	21.2	23.5
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG
Sodium	ppm	ASTM D5185(m)		<b>2</b>	1	1
Boron	ppm	ASTM D5185(m)		<b>2</b>	6	1
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>77</b>	62	61
Manganese	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)		<b>1152</b>	964	1024
Calcium	ppm	ASTM D5185(m)		<b>1235</b>	1093	1136
Phosphorus	ppm	ASTM D5185(m)		<b>1076</b>	1039	1061
Zinc	ppm	ASTM D5185(m)		<b>1488</b>	1177	1235
Sulfur	ppm	ASTM D5185(m)		<b>2373</b>	2453	2440
Oxidation	Abs/.1mm	ASTM D7414*	>25	▲ <b>69.6</b>	23.9	24.0
Base Number (BN)	mg KOH/g	ASTM D2896*		<b>7.86</b>	8.56	8.78
Visc @ 40°C	cSt	ASTM D7279(m)		▲ <b>471</b>	▲ 77.1	117
Visc @ 100°C	cSt	ASTM D7279(m)		▲ <b>30.3</b>	▲ 12.2	15.4
Viscosity Index (VI)	Scale	ASTM D2270*		▲ <b>93</b>	155	137



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0074280  
**Lab Number** : 02637604  
**Unique Number** : 5786766  
**Test Package** : MOB 2 ( Additional Tests: KV40, PercentFuel, VI )

**TRUCK AND EQUIPMENT SOLUTION**  
 2 BERTRAM INDUSTRIAL PKWY.  
 MIDHURST, ON  
 CA L9X 1L2  
 Contact: Julie Holden  
 parts@tesbarrie.com  
 T: (705)792-7620  
 F: (705)725-5425

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.