

Machine Id  
**DR180**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON UHP 5W40 (40 LTR)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PC0089310</b>	PC0078249	PC0075670
Sample Date		Client Info		<b>10 Apr 2024</b>	05 Aug 2023	08 May 2023
Machine Age	hrs	Client Info		<b>9021</b>	8667	8460
Oil Age	hrs	Client Info		<b>0</b>	250	250
Filter Age	hrs	Client Info		<b>0</b>	250	250
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>100	<b>18</b>	11	13
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185(m)	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Silver	ppm	ASTM D5185(m)	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>5</b>	4	4
Lead	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>330	<b>8</b>	2	2
Tin	ppm	ASTM D5185(m)	>15	<b>0</b>	<1	<1
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	Visual*	NONE	<b>VLITE</b>	---	---

**CONTAMINATION**

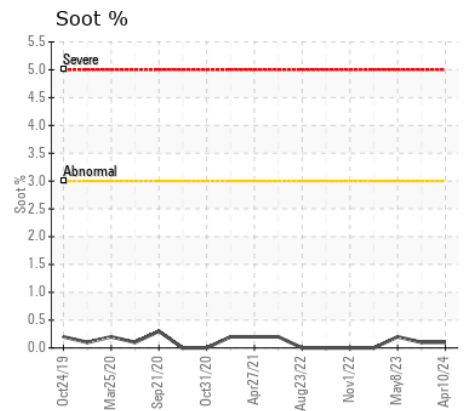
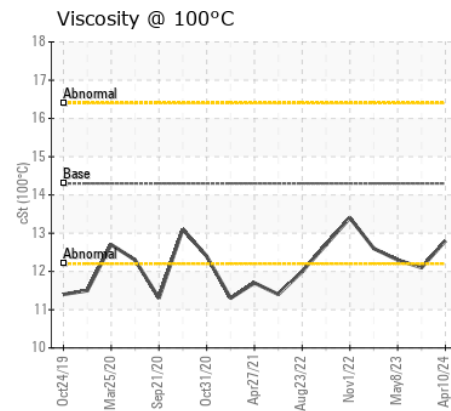
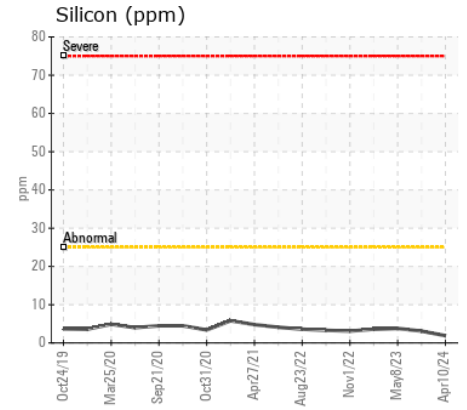
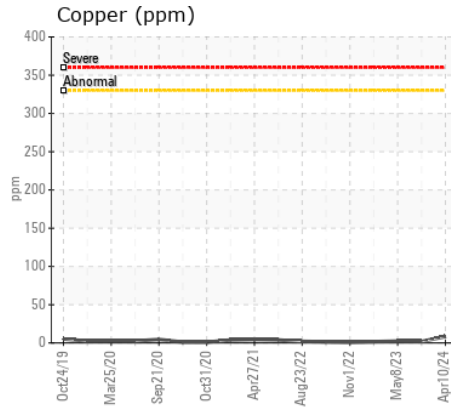
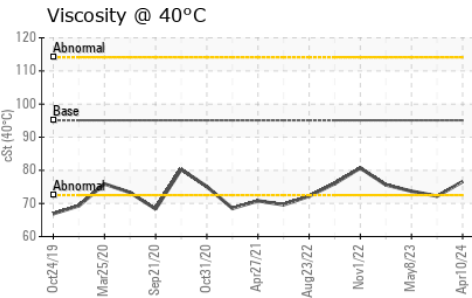
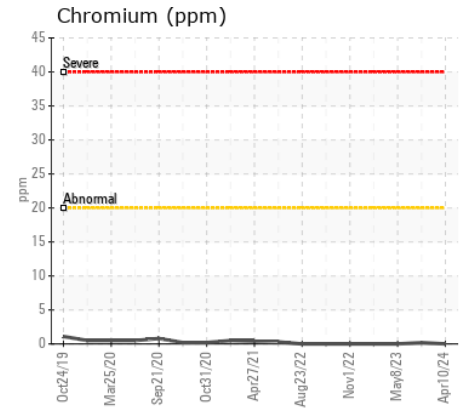
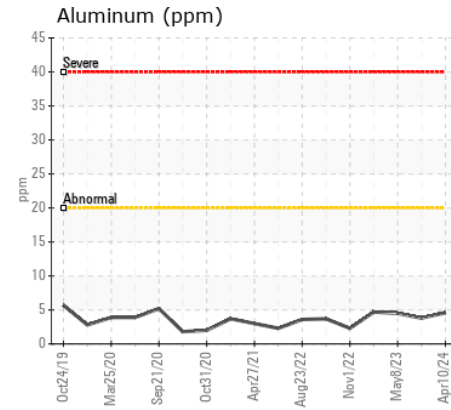
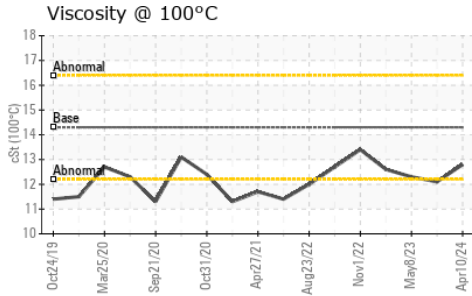
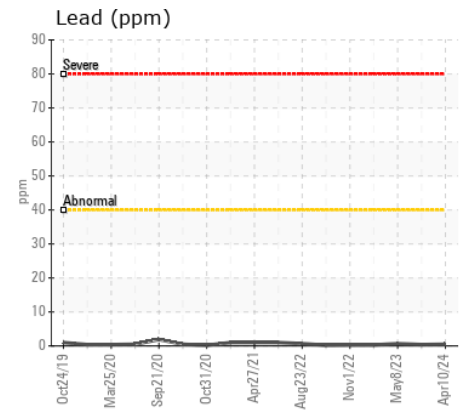
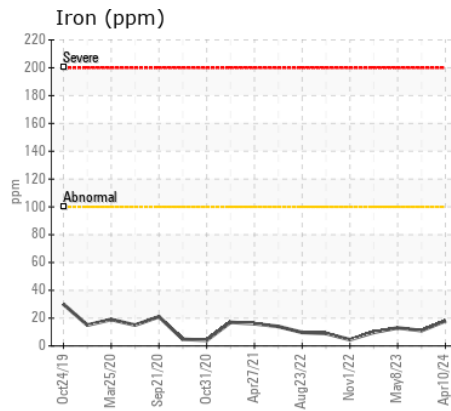
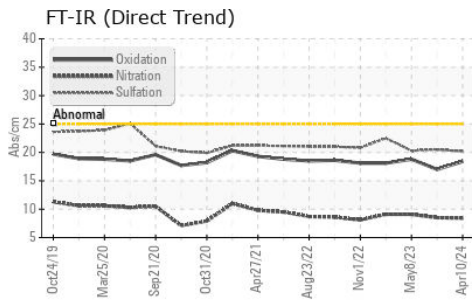
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	3	4
Potassium	ppm	ASTM D5185(m)	>20	<b>3</b>	4	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>0.1</b>	0.1	0.2
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.4</b>	8.5	9.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>20.2</b>	20.5	20.3
Silt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Debris	scalar	Visual*	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	---	---
Appearance	scalar	Visual*	NORML	<b>NORML</b>	---	---
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		<b>4</b>	4	4
Boron	ppm	ASTM D5185(m)	65	<b>37</b>	27	32
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	65	<b>54</b>	53	61
Manganese	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	<b>1054</b>	1031	1088
Calcium	ppm	ASTM D5185(m)	820	<b>786</b>	777	858
Phosphorus	ppm	ASTM D5185(m)	1160	<b>941</b>	979	1039
Zinc	ppm	ASTM D5185(m)	1260	<b>1112</b>	1109	1132
Sulfur	ppm	ASTM D5185(m)	3000	<b>2603</b>	2602	2808
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>18.4</b>	17.0	18.8
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	<b>76.6</b>	72.2	73.7
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	<b>12.8</b>	12.1	12.3
Viscosity Index (VI)	Scale	ASTM D2270*	169	<b>167</b>	165	165



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC0089310  
**Lab Number** : 02631265  
**Unique Number** : 5772418  
**Test Package** : MOB 1 ( Additional Tests: KV40, VI, Visual )

Green Infrastructure and Partners Inc (GIPI) - 286 - Shoring & Foundations  
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 Stouffville, ON  
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 Contact: Shannon Abbott  
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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.