



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



Machine Id  
**014**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON UHP 10W40 (--- GAL)**

### RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DE0000499</b>	DE0000510	PC0032532
Sample Date		Client Info		<b>25 Jun 2024</b>	10 Nov 2023	06 Jul 2023
Machine Age	mls	Client Info		<b>447731</b>	432444	417514
Oil Age	mls	Client Info		<b>447731</b>	14870	8626
Filter Age	mls	Client Info		<b>447731</b>	14870	8626
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

### WEAR

Piston and ring wear is indicated.

Iron	ppm	ASTM D5185m	>75	<b>49</b>	29	19
Chromium	ppm	ASTM D5185m	>4	<b>▲ 9</b>	2	<1
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>2</b>	2	2
Aluminum	ppm	ASTM D5185m	>54	<b>▲ 79</b>	51	37
Lead	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Copper	ppm	ASTM D5185m	>240	<b>4</b>	2	1
Tin	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

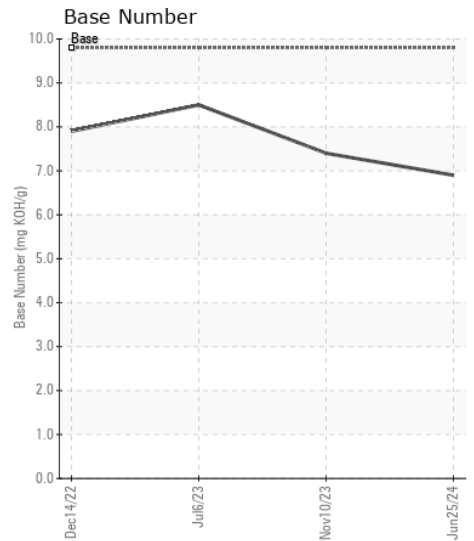
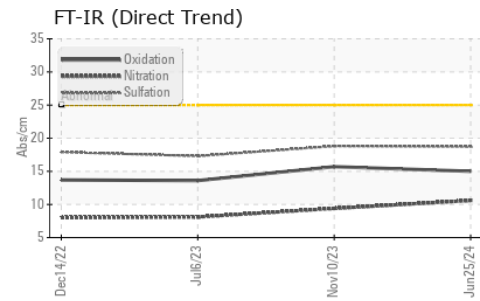
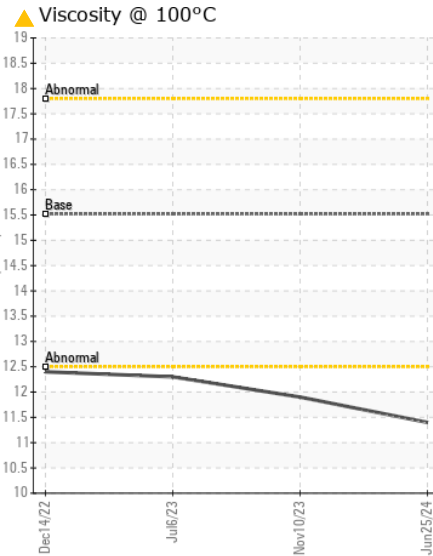
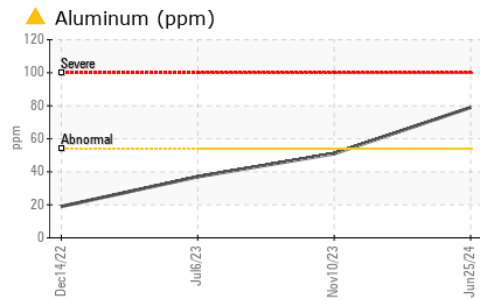
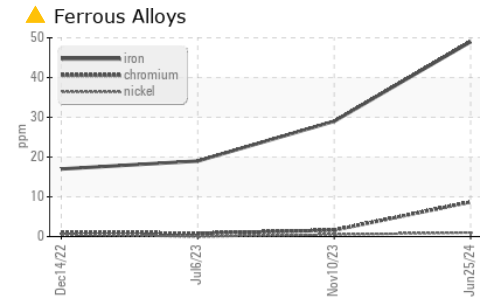
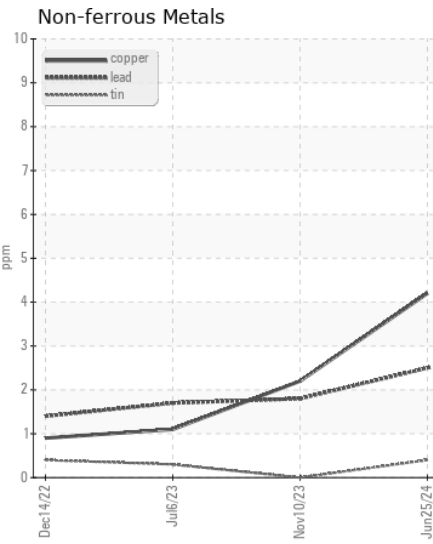
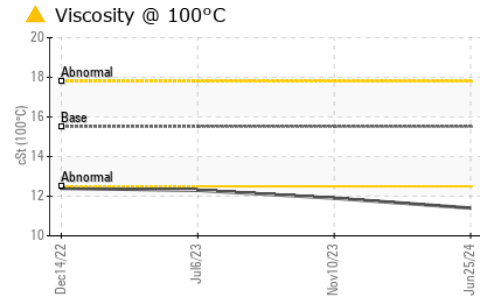
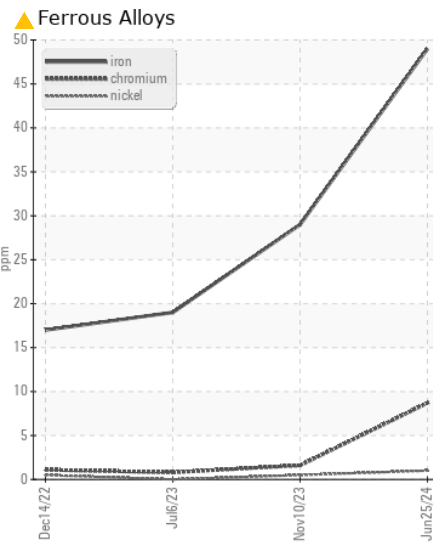
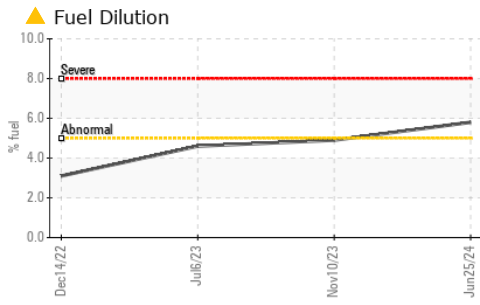
There is a moderate amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>35	<b>10</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>4</b>	2	2
Fuel	%	ASTM D3524	>5	<b>▲ 5.8</b>	<b>▲ 4.9</b>	<b>▲ 4.6</b>
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.5	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.6</b>	9.4	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.7</b>	18.8	17.3
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

Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>1</b>	<1	2
Boron	ppm	ASTM D5185m	2	<b>4</b>	2	3
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>61</b>	54	58
Manganese	ppm	ASTM D5185m	0	<b>2</b>	<1	1
Magnesium	ppm	ASTM D5185m	1010	<b>937</b>	823	990
Calcium	ppm	ASTM D5185m	1070	<b>1085</b>	920	1155
Phosphorus	ppm	ASTM D5185m	1150	<b>1051</b>	936	1051
Zinc	ppm	ASTM D5185m	1270	<b>1232</b>	1088	1327
Sulfur	ppm	ASTM D5185m	2060	<b>2982</b>	3116	3984
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.0</b>	15.7	13.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.9</b>	7.4	8.5
Visc @ 100°C	cSt	ASTM D445	15.52	<b>▲ 11.4</b>	<b>▲ 11.9</b>	<b>▲ 12.3</b>



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DE0000499 **Received** : 28 Jun 2024  
**Lab Number** : 06224188 **Tested** : 03 Jul 2024  
**Unique Number** : 11102385 **Diagnosed** : 03 Jul 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: KV40, PercentFuel )  
 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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