



# OIL ANALYSIS REPORT

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

Machine Id  
**31117 PORT S.S. ENGINE (S/N 47B4885)**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON HP 15W40 (55 LTR)**

## RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0947972</b>	WC0905540	WC0867275
Sample Date		Client Info		<b>02 Jun 2024</b>	14 May 2024	16 Apr 2024
Machine Age	hrs	Client Info		<b>35986</b>	35571	0
Oil Age	hrs	Client Info		<b>500</b>	536	500
Filter Age	hrs	Client Info		<b>500</b>	536	0
Oil Changed		Client Info		<b>Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>80	<b>7</b>	4	5
Chromium	ppm	ASTM D5185(m)	>6	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	1
Lead	ppm	ASTM D5185(m)	>95	<b>0</b>	0	0
Copper	ppm	ASTM D5185(m)	>85	<b>2</b>	1	5
Tin	ppm	ASTM D5185(m)	>9	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

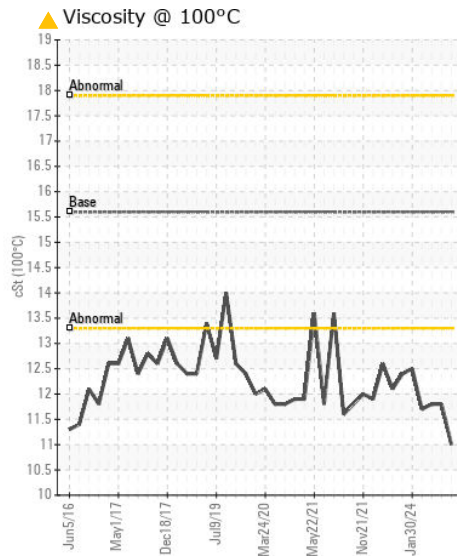
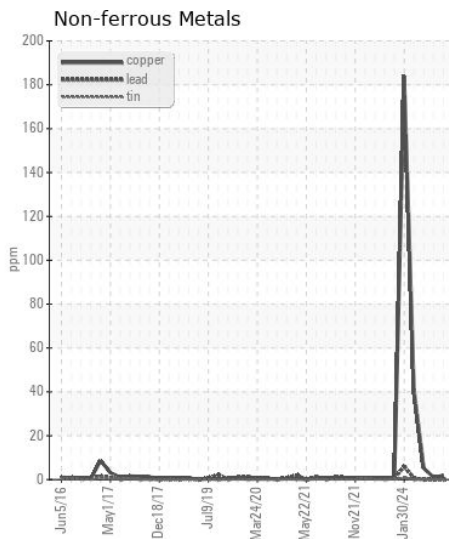
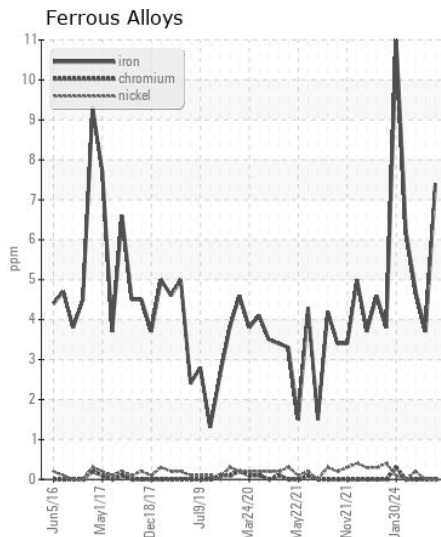
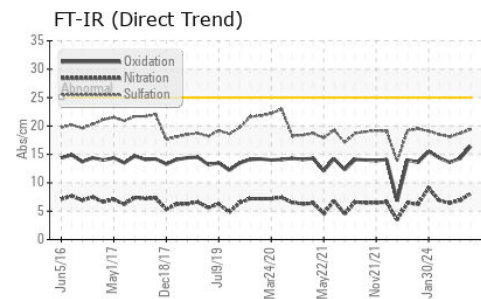
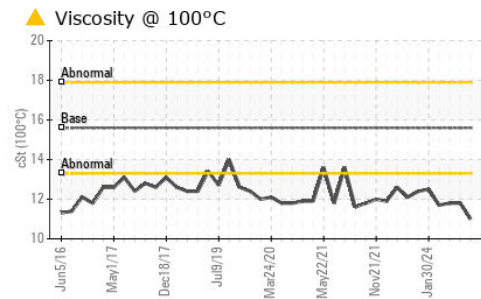
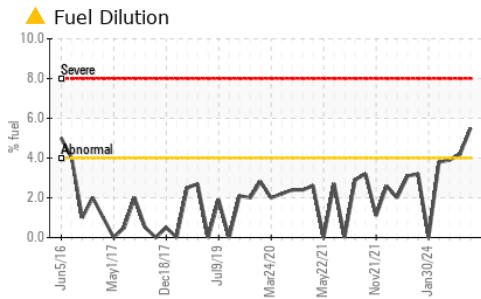
There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>25	<b>2</b>	1	6
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Fuel	%	ASTM D7593*	>4.0	<b>▲ 5.5</b>	▲ 4.2	▲ 3.9
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	ASTM D7844*		<b>0.1</b>	0	0
Nitration	Abs/cm	ASTM D7624*	>20	<b>8.1</b>	6.9	6.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	<b>19.4</b>	18.7	18.1
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*	>0.1	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185(m)		<b>1</b>	2	2
Boron	ppm	ASTM D5185(m)	0	<b>2</b>	3	5
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	60	<b>45</b>	46	33
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)	1010	<b>800</b>	816	628
Calcium	ppm	ASTM D5185(m)	1070	<b>1131</b>	1159	1345
Phosphorus	ppm	ASTM D5185(m)	1150	<b>899</b>	929	888
Zinc	ppm	ASTM D5185(m)	1270	<b>1108</b>	1131	1068
Sulfur	ppm	ASTM D5185(m)	2060	<b>2300</b>	2475	2460
Oxidation	Abs/.1mm	ASTM D7414*	>25	<b>16.4</b>	14.3	13.6
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	<b>▲ 11.0</b>	▲ 11.8	▲ 11.8



ISO 17025:2017  
Accredited  
Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0947972  
**Lab Number** : 02640682  
**Unique Number** : 5789844  
**Test Package** : MAR 1 ( Additional Tests: PercentFuel )

**Received** : 10 Jun 2024  
**Tested** : 11 Jun 2024  
**Diagnosed** : 11 Jun 2024 - Wes Davis

**CCGS Cygnus - Fleet Tech Stores**  
 280 Southside Road,, P.O. BOX 5667  
 ST. JOHN'S, NL  
 CA A1C 5X1  
 Contact: Chief Engineer  
 CygnusCE@CYG.ccgsc-ngcc.gc.ca

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.

T: x:  
 F: (709)772-3652