

Machine Id  
**Liberty 1**  
Component  
**Natural Gas Engine**  
Fluid  
**PETRO CANADA SENTRON LD 3000 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0112019</b>	PCA0111972	PCA0117137
Sample Date		Client Info		<b>01 May 2024</b>	02 Apr 2024	01 Mar 2024
Machine Age	hrs	Client Info		<b>71644</b>	70936	70196
Oil Age	hrs	Client Info		<b>13434</b>	12726	11986
Filter Age	hrs	Client Info		<b>13434</b>	12726	11986
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>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>2</b>	2	0
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	1	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>9	<b>&lt;1</b>	2	2
Lead	ppm	ASTM D5185m	>30	<b>1</b>	1	<1
Copper	ppm	ASTM D5185m	>35	<b>&lt;1</b>	<1	0
Tin	ppm	ASTM D5185m	>4	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

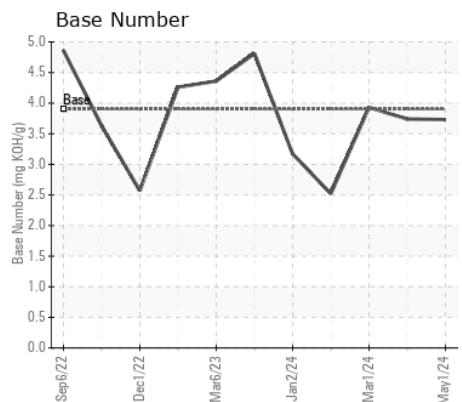
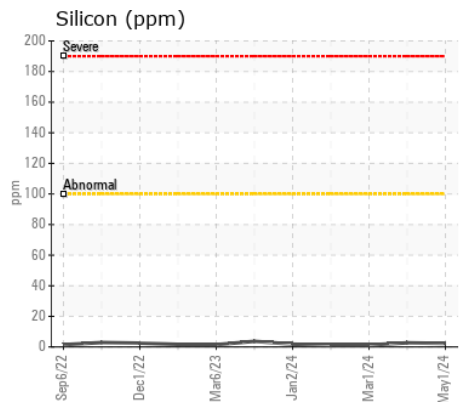
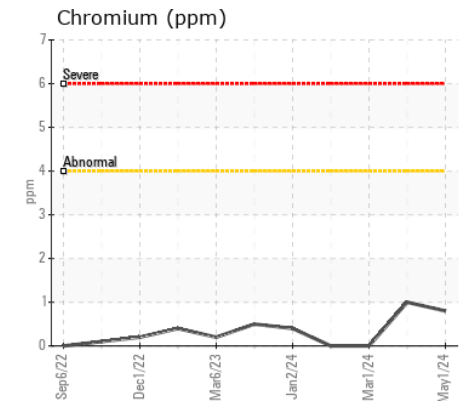
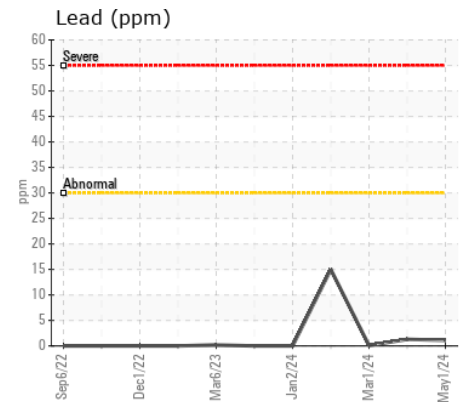
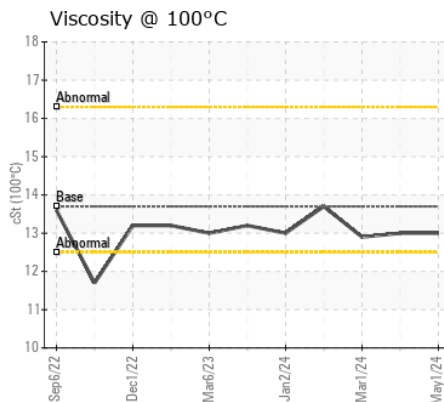
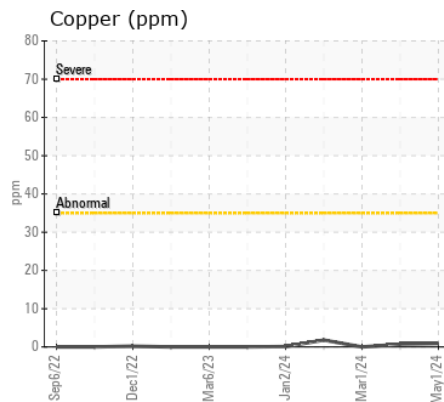
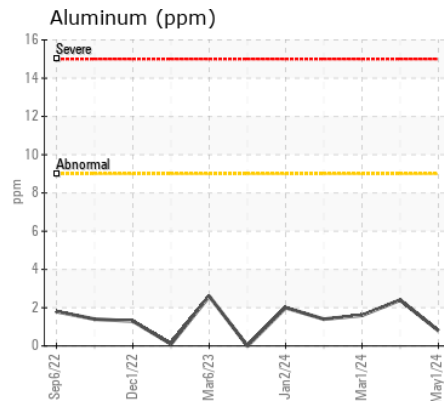
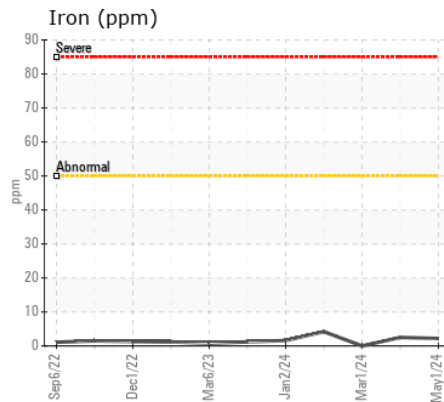
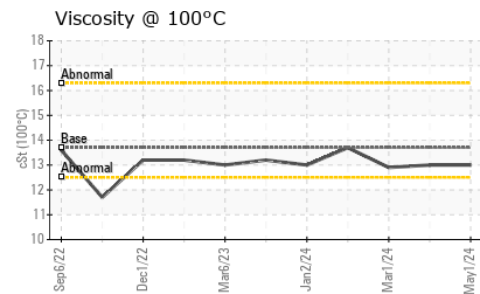
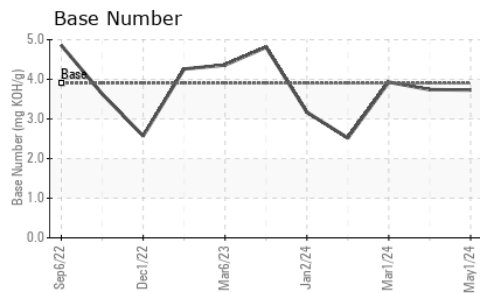
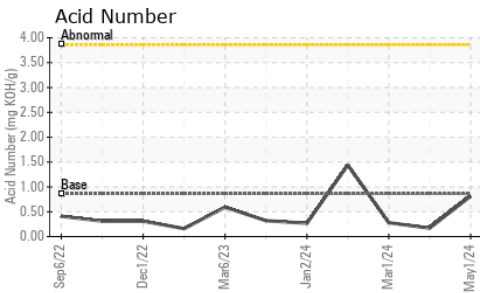
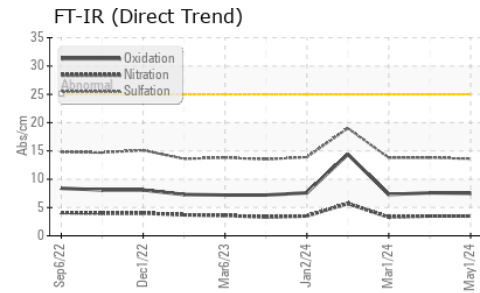
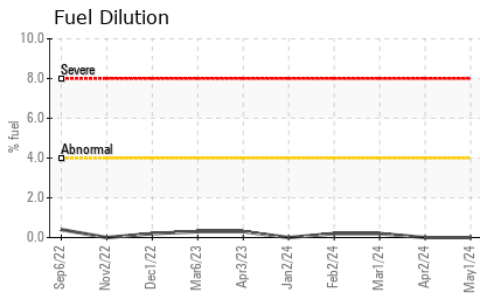
Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>+100	<b>2</b>	3	1
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	2	1
Fuel	%	ASTM D3524	>4.0	<b>0.0</b>	0.0	0.2
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0</b>	0	0
Nitration	Abs/cm	*ASTM D7624	>20	<b>3.5</b>	3.5	3.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>13.6</b>	13.8	13.8
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**

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	0	1
Boron	ppm	ASTM D5185m	5	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	1	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	2	<b>2</b>	2	<1
Manganese	ppm	ASTM D5185m	1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	5	<b>8</b>	10	9
Calcium	ppm	ASTM D5185m	1220	<b>1241</b>	1716	1179
Phosphorus	ppm	ASTM D5185m	298	<b>288</b>	395	270
Zinc	ppm	ASTM D5185m	350	<b>343</b>	457	342
Sulfur	ppm	ASTM D5185m	1995	<b>2616</b>	3448	2240
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>7.5</b>	7.6	7.3
Acid Number (AN)	mg KOH/g	ASTM D8045	0.86	<b>0.815</b>	0.17	0.28
Base Number (BN)	mg KOH/g	ASTM D2896	3.9	<b>3.73</b>	3.74	3.93
Visc @ 100°C	cSt	ASTM D445	13.7	<b>13.0</b>	13.0	12.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0112019 **Received** : 09 May 2024  
**Lab Number** : 06174044 **Tested** : 15 May 2024  
**Unique Number** : 11020097 **Diagnosed** : 15 May 2024 - Wes Davis  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**ENERVEST OPERATING - LIBERTY**  
 318 SINGLETON ROAD  
 NORA, VA  
 US 24272  
 Contact: Service Manager

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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F: