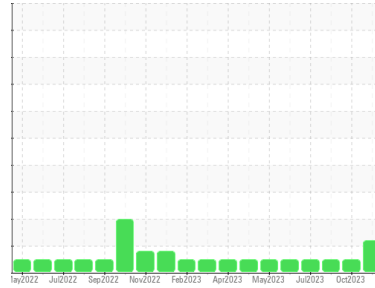


OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION



Machine Id
M1 (S/N 1457445)

Component
Biogas Engine

Fluid
PETRO CANADA SENTRON LD 8000 (--- GAL)

DIAGNOSIS

Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

Fluid Condition

The BN level is low. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			PCA0106191	PCA0106179	PCA0096511
Sample Date	Client Info			12 Nov 2023	18 Oct 2023	07 Sep 2023
Machine Age	hrs	Client Info		8932	8425	7924
Oil Age	hrs	Client Info		5557	5049	4458
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method	>0.1		NEG	NEG	NEG
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>45	6	6	6
Chromium	ppm	ASTM D5185m	>2	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	2	1
Lead	ppm	ASTM D5185m	>5	1	2	0
Copper	ppm	ASTM D5185m	>14	<1	<1	0
Tin	ppm	ASTM D5185m	>13	4	4	3
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

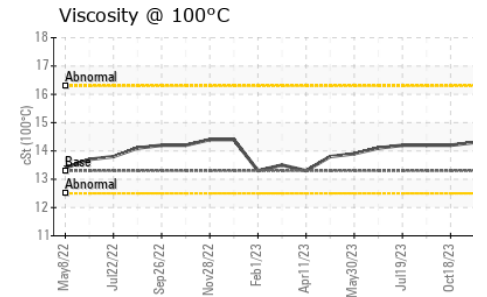
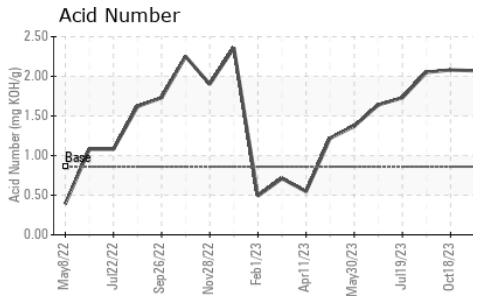
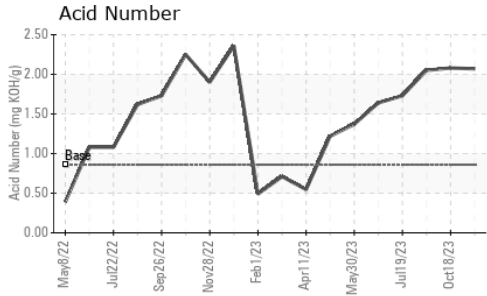
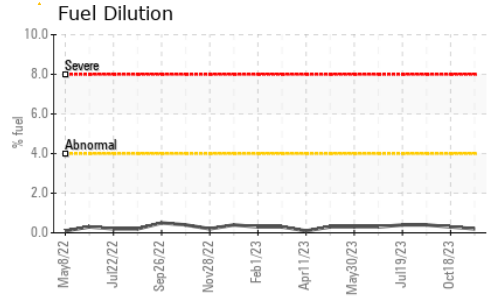
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	<1	0
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m		13	9	14
Calcium	ppm	ASTM D5185m	1351	1721	1694	1691
Phosphorus	ppm	ASTM D5185m	302	319	310	313
Zinc	ppm	ASTM D5185m	358	434	408	417
Sulfur	ppm	ASTM D5185m	2758	2924	2855	3459

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>200	2	2	1
Sodium	ppm	ASTM D5185m		4	4	3
Potassium	ppm	ASTM D5185m	>20	<1	0	<1
Fuel	%	ASTM D3524	>4.0	0.2	0.3	0.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.6	7.3	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.2	21.9	20.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.6	18.3	16.7
Acid Number (AN)	mg KOH/g	ASTM D8045	0.86	2.07	2.08	2.05
Base Number (BN)	mg KOH/g	ASTM D2896	4.64	▲ 2.07	2.88	2.02

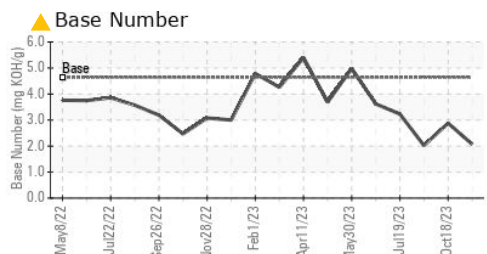
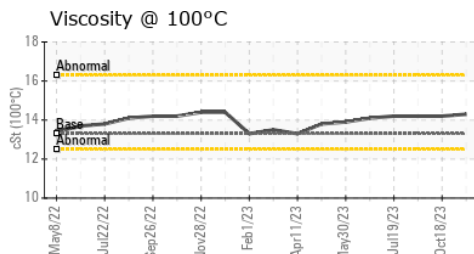
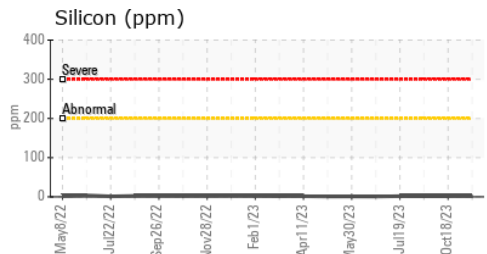
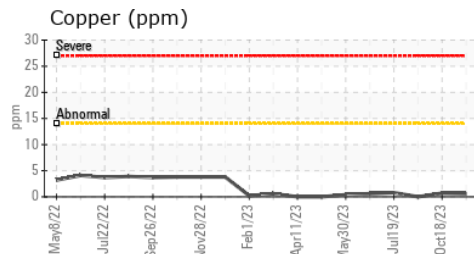
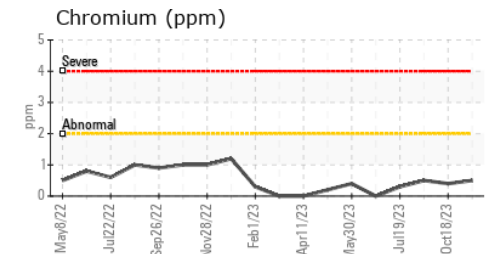
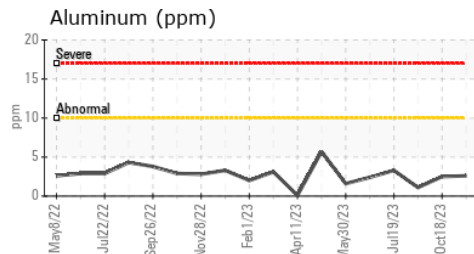
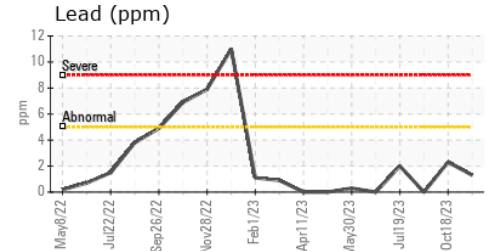
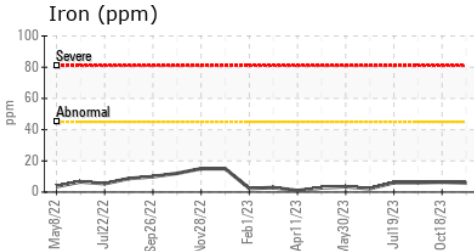
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.3	14.3	14.2

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0106191 **Received** : 17 Nov 2023
Lab Number : 06011632 **Tested** : 21 Nov 2023
Unique Number : 10750776 **Diagnosed** : 22 Nov 2023 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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 F:

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)