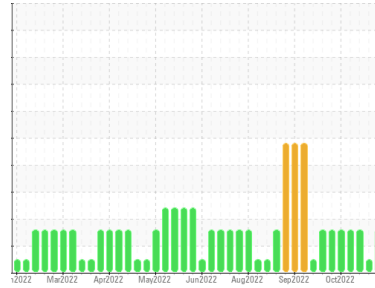




# OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id  
**GZJ00403**  
Component  
**Biogas Engine**  
Fluid  
**PETRO CANADA SENTRON CG 40 (--- GAL)**

## DIAGNOSIS

**Recommendation**  
No corrective action is recommended at this time. Resample at the next service interval to monitor. ( Customer Sample Comment: Total oil added 18 gal )

**Wear**  
All component wear rates are normal.

**Contamination**  
Fuel content negligible. Elemental level of silicon (Si) above normal.

**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.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0699062</b>	WC0699063	WC0699056
Sample Date	Client Info		<b>08 Nov 2022</b>	31 Oct 2022	24 Oct 2022
Machine Age	hrs	Client Info	<b>109933</b>	109744	109577
Oil Age	hrs	Client Info	<b>308</b>	119	958
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>ABNORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>45	<b>4</b>	2	9
Chromium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>10	<b>2</b>	2	5
Lead	ppm	ASTM D5185m	>5	<b>1</b>	<1	2
Copper	ppm	ASTM D5185m	>14	<b>2</b>	<1	3
Tin	ppm	ASTM D5185m	>13	<b>4</b>	2	7
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	1	<b>0</b>	<1	0
Molybdenum	ppm	ASTM D5185m	2	<b>1</b>	1	2
Manganese	ppm	ASTM D5185m	1	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	9	<b>13</b>	14	14
Calcium	ppm	ASTM D5185m	2712	<b>2861</b>	2805	3044
Phosphorus	ppm	ASTM D5185m	292	<b>267</b>	262	279
Zinc	ppm	ASTM D5185m	342	<b>317</b>	322	345
Sulfur	ppm	ASTM D5185m	2575	<b>3898</b>	3671	3941

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>200	<b>▲ 205</b>	115	<b>▲ 471</b>
Sodium	ppm	ASTM D5185m		<b>0</b>	0	0
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Fuel	%	ASTM D3524	>4.0	<b>0.2</b>	0.1	0.2

## INFRA-RED

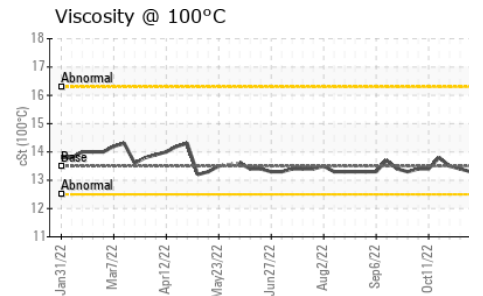
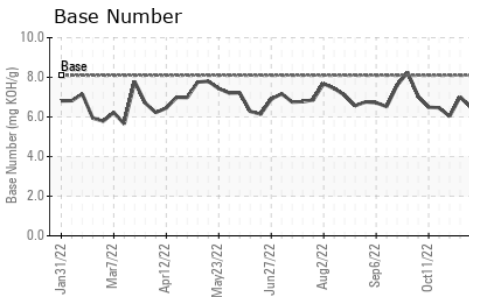
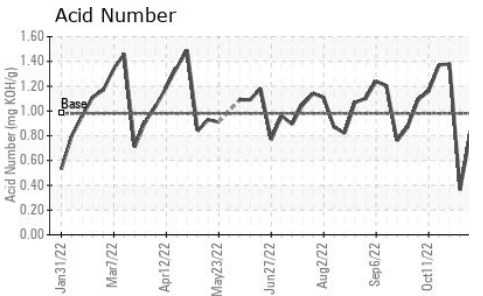
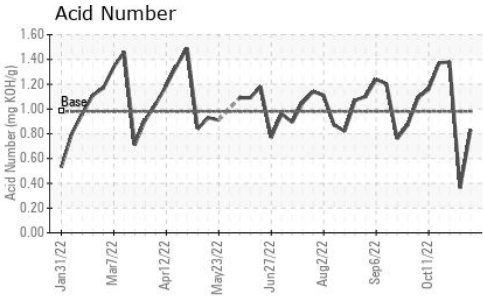
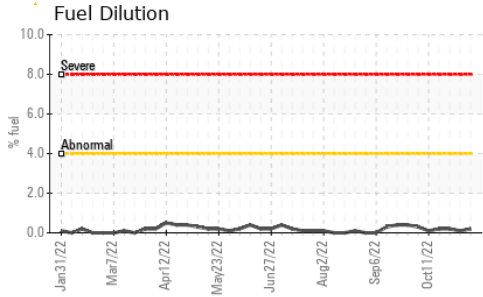
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>4.8</b>	4.5	5.3
Sulfation	Abs./1mm	*ASTM D7415	>30	<b>18.2</b>	16.7	22.2

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs./1mm	*ASTM D7414	>25	<b>8.8</b>	8.5	10.4
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	<b>0.83</b>	0.363	1.38
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	<b>6.51</b>	7.01	6.03



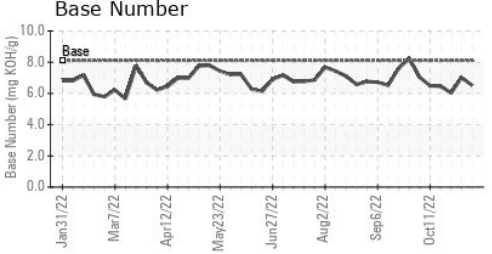
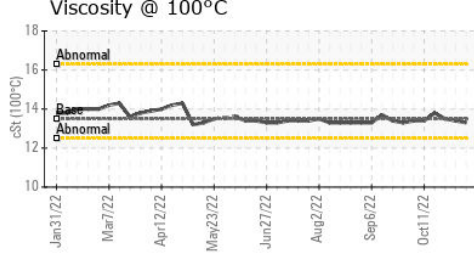
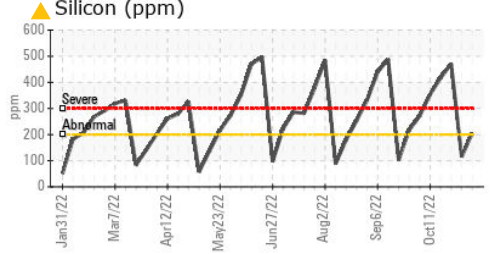
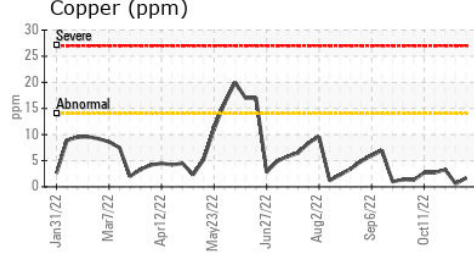
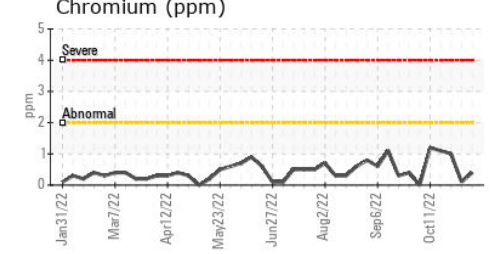
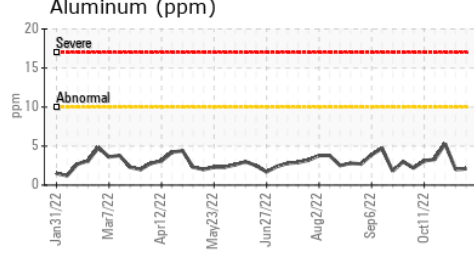
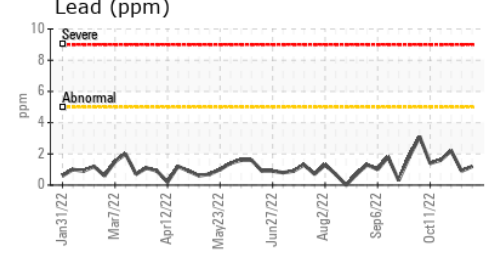
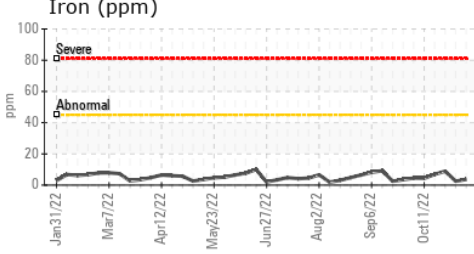
# OIL ANALYSIS REPORT



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	13.5	13.3	13.4

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0699062 **Received** : 11 Nov 2022  
**Lab Number** : 05691498 **Tested** : 15 Nov 2022  
**Unique Number** : 10216071 **Diagnosed** : 15 Nov 2022 - Don Baldrige  
**Test Package** : MOB 2 ( Additional Tests: FuelDilution, PercentFuel )

**FINLEY BIOENERGY**  
 74265 Bombing Range Road  
 Boardman, OR  
 US 97818  
 Contact: Blain Middleton  
 bmiddleton@archaea.energy  
 T: (541)481-3232  
 F:

Certificate L2367  
 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)