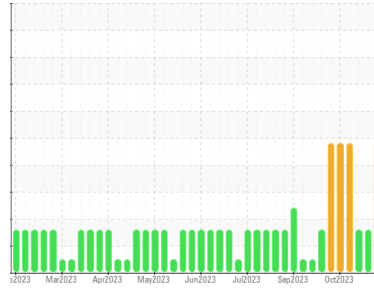




# OIL ANALYSIS REPORT

Sample Rating Trend



**DIRT**



Machine Id  
**GZJ00314**  
Component  
**Biogas Engine**  
Fluid  
**PETRO CANADA SENTRON CG 40 (145 GAL)**

## DIAGNOSIS

### Recommendation

We recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.

### 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 oil is no longer serviceable due to the presence of contaminants.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0836473</b>	WC0836477	WC0836472
Sample Date	Client Info		<b>14 Nov 2023</b>	06 Nov 2023	30 Oct 2023
Machine Age	hrs	Client Info	<b>127163</b>	126991	126821
Oil Age	hrs	Client Info	<b>626</b>	475	305
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>SEVERE</b>	ABNORMAL	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>6</b>	8	4
Chromium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>10	<b>3</b>	4	1
Lead	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>14	<b>1</b>	2	1
Tin	ppm	ASTM D5185m	>13	<b>6</b>	3	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	<1

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	<b>0</b>	2	0
Barium	ppm	ASTM D5185m	1	<b>0</b>	0	4
Molybdenum	ppm	ASTM D5185m	2	<b>0</b>	<1	1
Manganese	ppm	ASTM D5185m	1	<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m	9	<b>18</b>	0	12
Calcium	ppm	ASTM D5185m	2712	<b>3098</b>	2790	2858
Phosphorus	ppm	ASTM D5185m	292	<b>330</b>	273	311
Zinc	ppm	ASTM D5185m	342	<b>409</b>	338	360
Sulfur	ppm	ASTM D5185m	2575	<b>3671</b>	3075	3660

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>200	<b>303</b>	246	202
Sodium	ppm	ASTM D5185m		<b>1</b>	2	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	1
Fuel	%	ASTM D3524	>4.0	<b>0.4</b>	0.3	0.3

## INFRA-RED

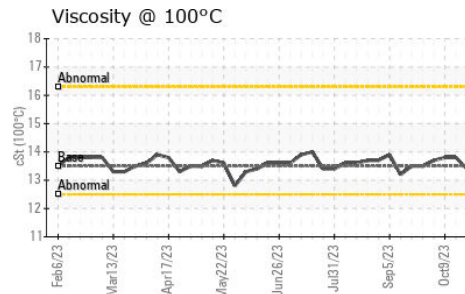
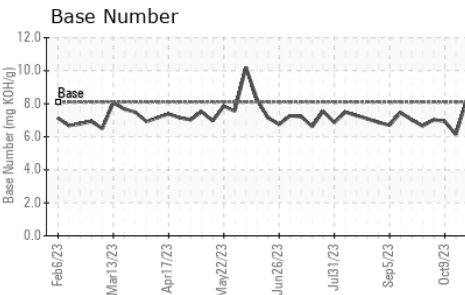
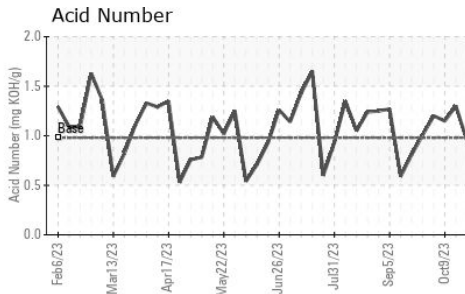
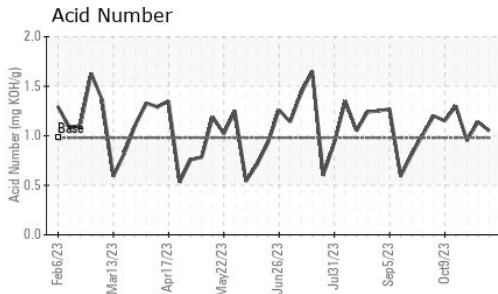
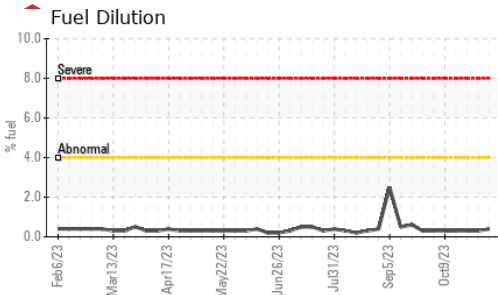
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		<b>0.1</b>	0	0
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.6</b>	6.3	5.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.9</b>	21.6	19.3

## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.2</b>	14.3	12.0
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	<b>1.05</b>	1.14	0.95
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	<b>6.24</b>	6.68	8.28



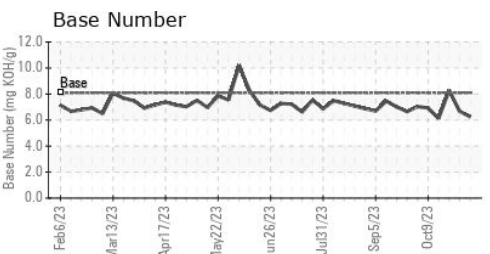
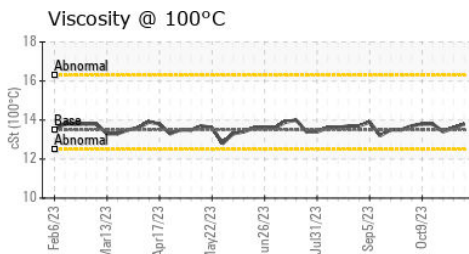
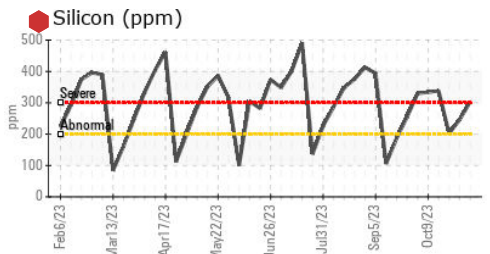
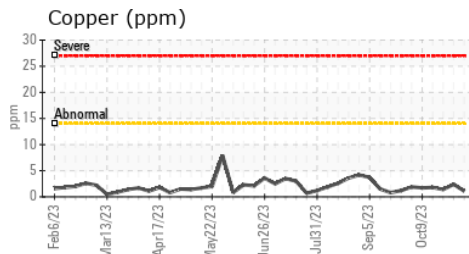
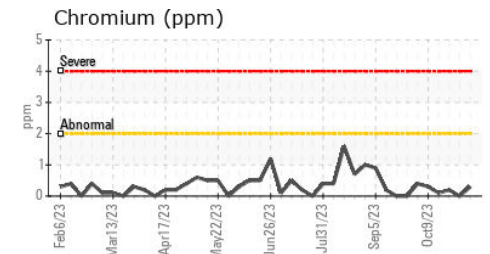
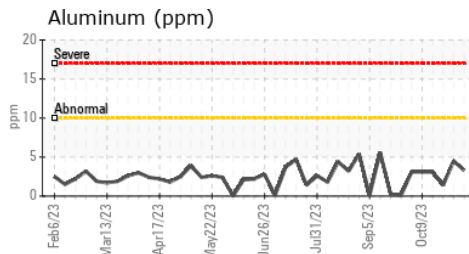
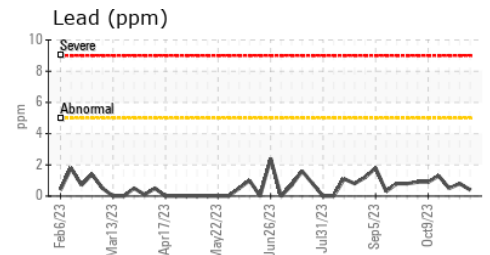
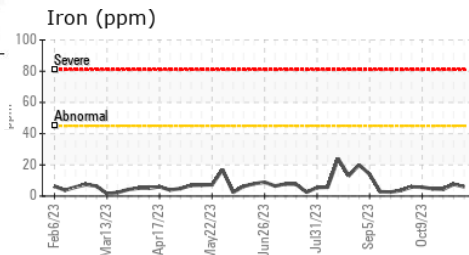
# OIL ANALYSIS REPORT



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	13.8	13.6

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0836473 **Received** : 20 Nov 2023  
**Lab Number** : 06012632 **Diagnosed** : 22 Nov 2023  
**Unique Number** : 10751776 **Diagnostician** : Jonathan Hester  
**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:

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)