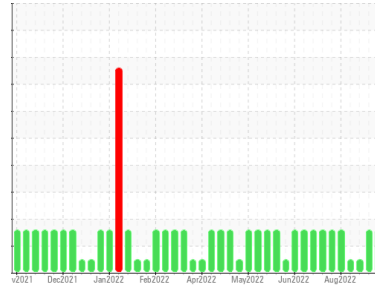




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
GZJ00314
Component
Biogas Engine
Fluid
PETRO CANADA SENTRON CG 40 (145 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 103 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	WC0697930	WC0697932	WC0697937
Sample Date	Client Info	29 Aug 2022	22 Aug 2022	15 Aug 2022
Machine Age	hrs	116861	116692	116525
Oil Age	hrs	620	451	284
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	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	4	3	2
Chromium	ppm ASTM D5185m >2	<1	<1	<1
Nickel	ppm ASTM D5185m >2	<1	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m	<1	0	0
Aluminum	ppm ASTM D5185m >10	2	2	2
Lead	ppm ASTM D5185m >5	1	<1	<1
Copper	ppm ASTM D5185m >14	3	3	2
Tin	ppm ASTM D5185m >13	4	4	2
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	1	2	0
Barium	ppm ASTM D5185m 1	<1	0	0
Molybdenum	ppm ASTM D5185m 2	1	<1	<1
Manganese	ppm ASTM D5185m 1	<1	<1	<1
Magnesium	ppm ASTM D5185m 9	15	13	11
Calcium	ppm ASTM D5185m 2712	3020	3041	2924
Phosphorus	ppm ASTM D5185m 292	296	300	274
Zinc	ppm ASTM D5185m 342	372	357	340
Sulfur	ppm ASTM D5185m 2575	3221	3500	3252

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >200	▲ 275	▲ 233	166
Sodium	ppm ASTM D5185m	<1	1	0
Potassium	ppm ASTM D5185m >20	0	0	0
Fuel	% ASTM D3524 >4.0	0.2	0.2	0.0

INFRA-RED

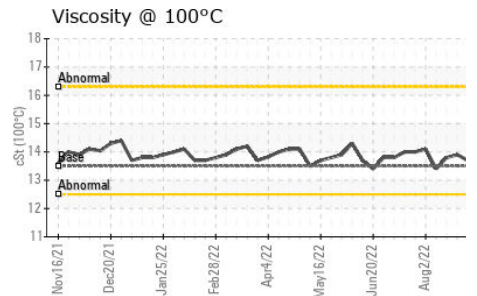
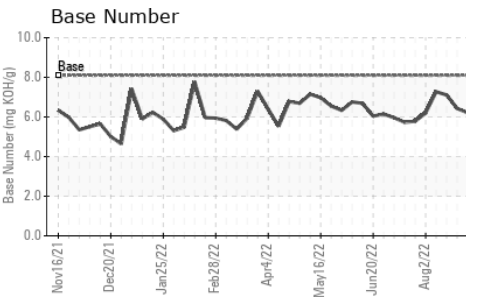
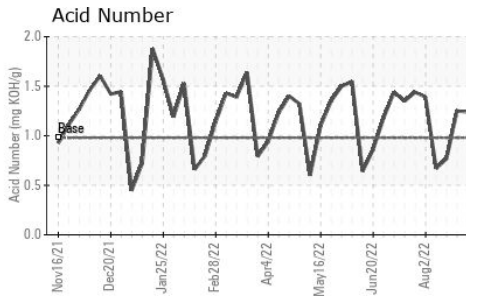
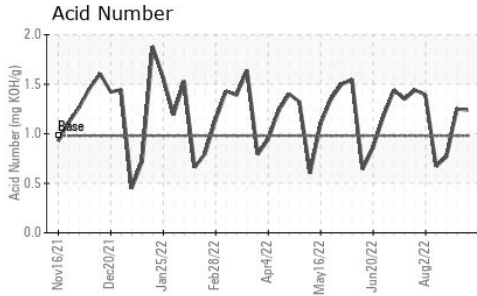
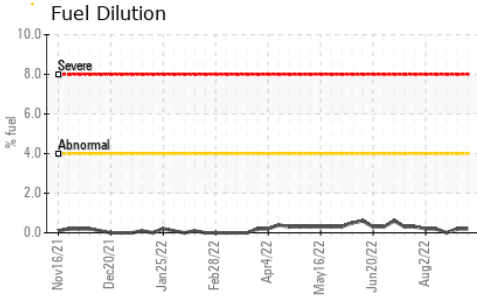
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	6.6	6.1	5.6
Sulfation	Abs/.1mm *ASTM D7415 >30	23.0	21.4	19.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.0	12.3	10.9
Acid Number (AN)	mg KOH/g ASTM D8045 0.98	1.24	1.25	0.77
Base Number (BN)	mg KOH/g ASTM D2896 8.1	6.21	6.43	7.11



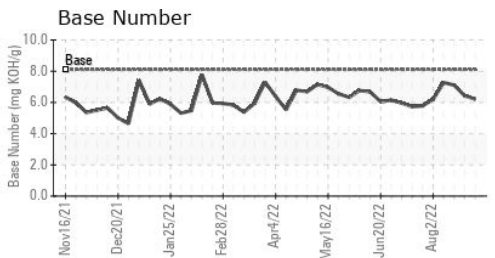
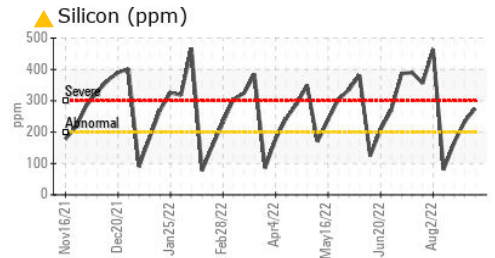
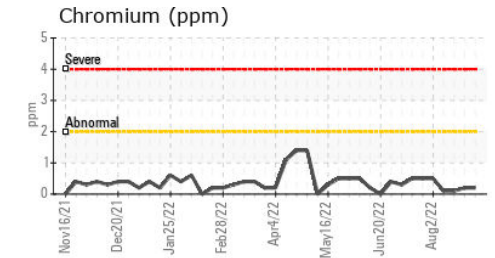
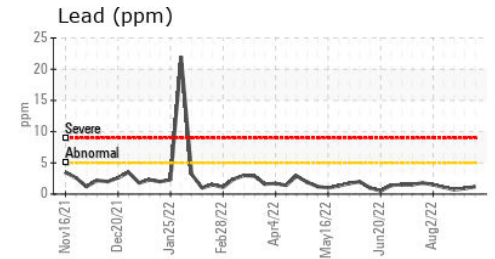
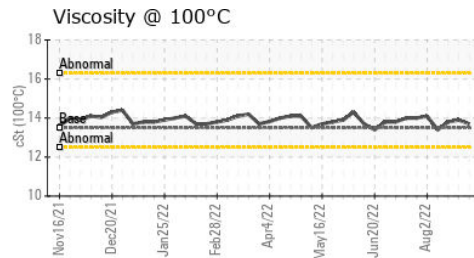
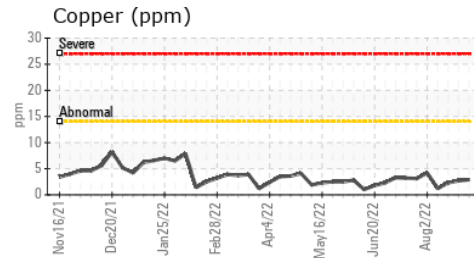
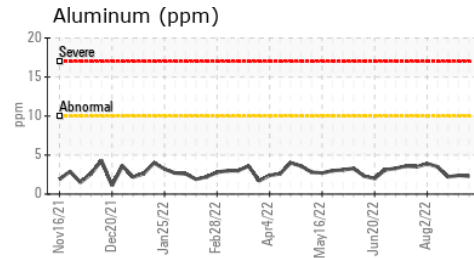
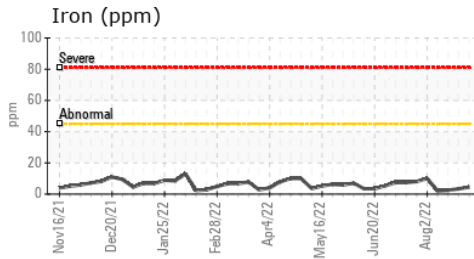
OIL ANALYSIS REPORT



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	13.7	13.9

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0697930 **Received** : 02 Sep 2022
Lab Number : 05633165 **Tested** : 06 Sep 2022
Unique Number : 10117686 **Diagnosed** : 06 Sep 2022 - Aaron Black
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)