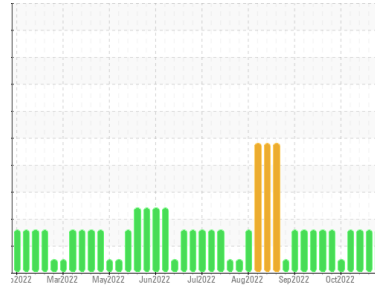




OIL ANALYSIS REPORT

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 54 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	WC0698988	WC0698995	WC0698987
Sample Date	Client Info	05 Dec 2022	28 Nov 2022	16 Nov 2022
Machine Age	hrs	110580	110412	110125
Oil Age	hrs	955	787	500
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

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	13	11	7
Chromium	ppm ASTM D5185m >2	<1	<1	<1
Nickel	ppm ASTM D5185m >2	0	1	<1
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >5	0	0	0
Aluminum	ppm ASTM D5185m >10	3	2	3
Lead	ppm ASTM D5185m >5	3	3	2
Copper	ppm ASTM D5185m >14	5	4	3
Tin	ppm ASTM D5185m >13	9	8	5
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	2	<1	<1
Barium	ppm ASTM D5185m 1	0	0	0
Molybdenum	ppm ASTM D5185m 2	2	2	2
Manganese	ppm ASTM D5185m 1	<1	<1	<1
Magnesium	ppm ASTM D5185m 9	14	17	14
Calcium	ppm ASTM D5185m 2712	3220	2924	2816
Phosphorus	ppm ASTM D5185m 292	292	294	277
Zinc	ppm ASTM D5185m 342	387	348	327
Sulfur	ppm ASTM D5185m 2575	4144	3717	3501

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >200	▲ 535	▲ 422	▲ 287
Sodium	ppm ASTM D5185m	0	<1	0
Potassium	ppm ASTM D5185m >20	<1	<1	0
Fuel	% ASTM D3524 >4.0	0.1	0.2	0.2

INFRA-RED

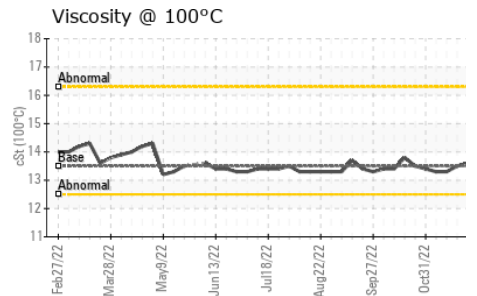
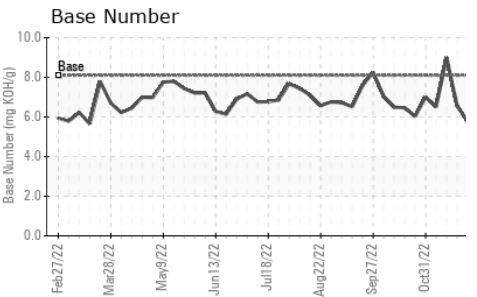
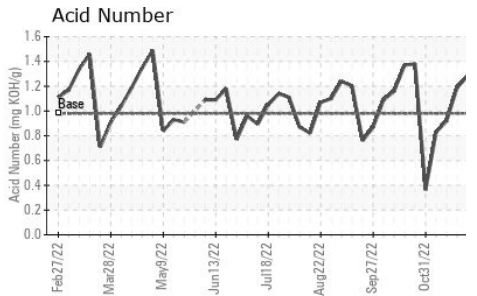
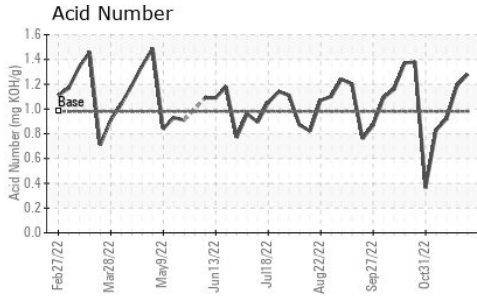
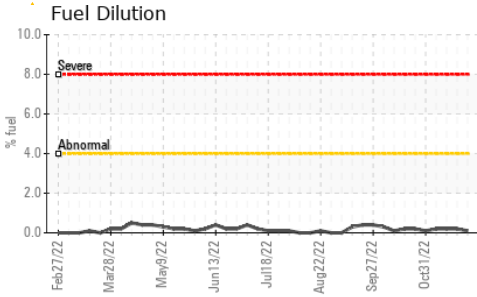
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	5.4	5.2	5.0
Sulfation	Abs/.1mm *ASTM D7415 >30	22.0	20.8	19.5

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	10.7	10.1	9.5
Acid Number (AN)	mg KOH/g ASTM D8045 0.98	1.28	1.19	0.92
Base Number (BN)	mg KOH/g ASTM D2896 8.1	5.76	6.57	8.99



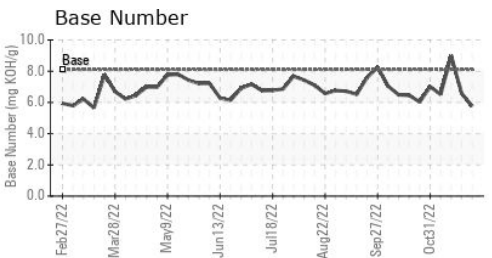
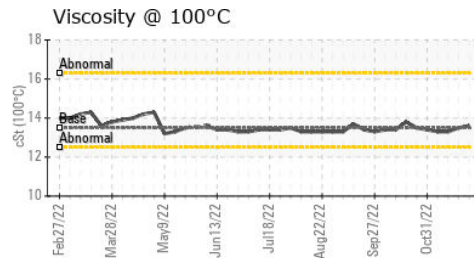
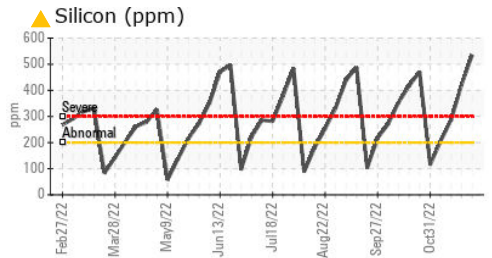
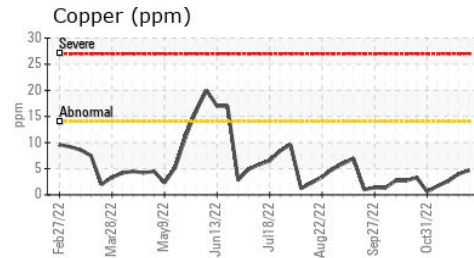
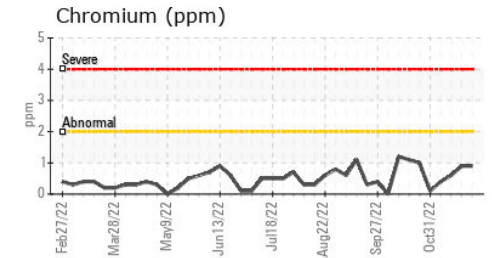
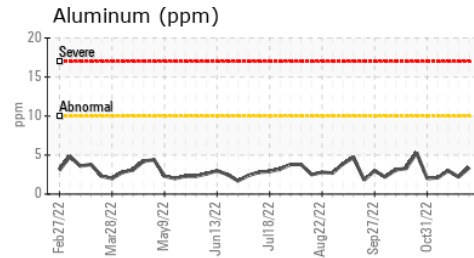
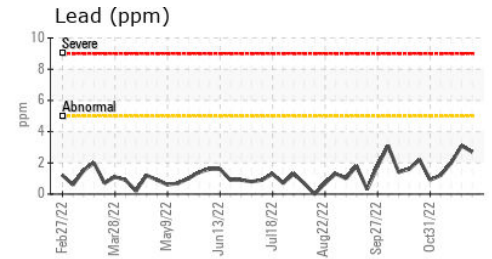
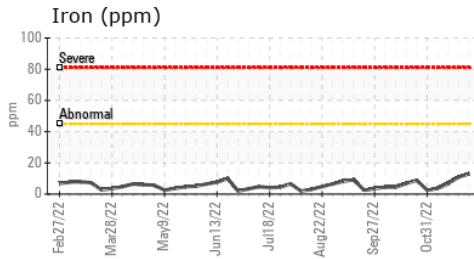
OIL ANALYSIS REPORT



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	13.6	13.5

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0698988 **Received** : 07 Dec 2022
Lab Number : 05711797 **Tested** : 09 Dec 2022
Unique Number : 10246372 **Diagnosed** : 11 Dec 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

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)