

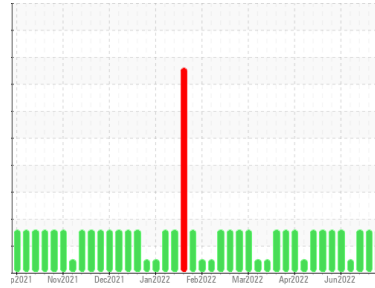


OIL ANALYSIS REPORT



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

Sample Rating Trend



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. 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 condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0699033	WC0699026	WC0699040
Sample Date	Client Info	06 Jul 2022	27 Jun 2022	20 Jun 2022
Machine Age	hrs	115870	115649	115482
Oil Age	hrs	652	431	264
Oil Changed	Client Info	Not Chngd	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	7	5	4
Chromium	ppm ASTM D5185m >2	<1	<1	0
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m	<1	0	<1
Aluminum	ppm ASTM D5185m >10	3	3	2
Lead	ppm ASTM D5185m >5	2	1	<1
Copper	ppm ASTM D5185m >14	3	2	2
Tin	ppm ASTM D5185m >13	5	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	4	3	2
Barium	ppm ASTM D5185m 1	0	<1	0
Molybdenum	ppm ASTM D5185m 2	<1	1	<1
Manganese	ppm ASTM D5185m 1	<1	<1	<1
Magnesium	ppm ASTM D5185m 9	10	16	9
Calcium	ppm ASTM D5185m 2712	2769	3064	2702
Phosphorus	ppm ASTM D5185m 292	269	318	267
Zinc	ppm ASTM D5185m 342	333	399	308
Sulfur	ppm ASTM D5185m 2575	3713	3644	2846

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >200	▲ 387	▲ 269	▲ 208
Sodium	ppm ASTM D5185m	0	1	1
Potassium	ppm ASTM D5185m >20	2	0	0
Fuel	% ASTM D3524 >4.0	0.6	0.3	0.3

INFRA-RED

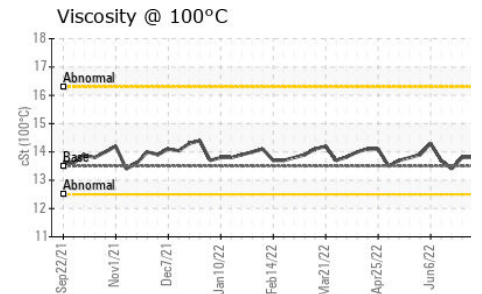
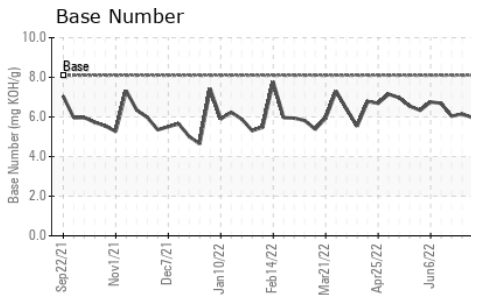
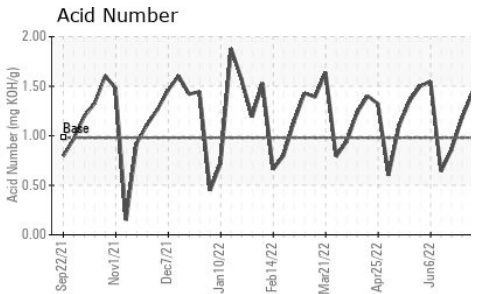
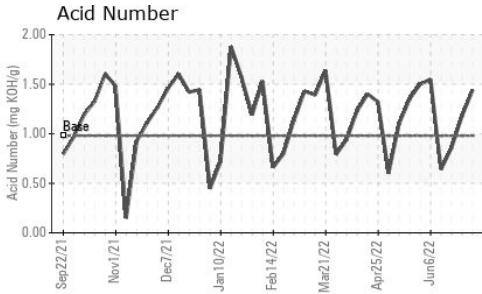
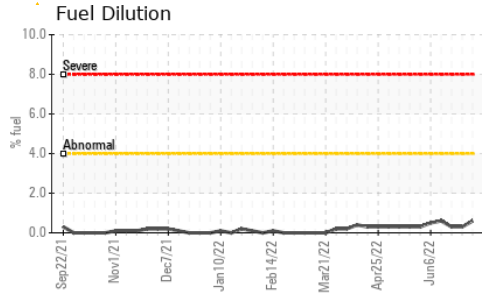
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0.1
Nitration	Abs/cm *ASTM D7624 >20	6.3	5.9	5.4
Sulfation	Abs/.1mm *ASTM D7415 >30	22.9	21.3	19.4

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	14.5	12.9	11.2
Acid Number (AN)	mg KOH/g ASTM D8045 0.98	1.44	1.18	0.86
Base Number (BN)	mg KOH/g ASTM D2896 8.1	5.96	6.15	6.04



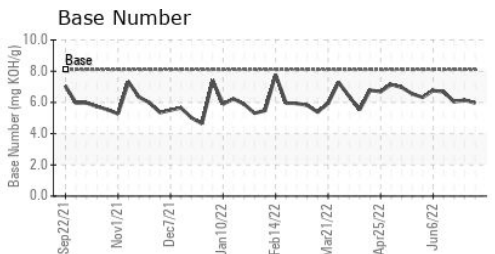
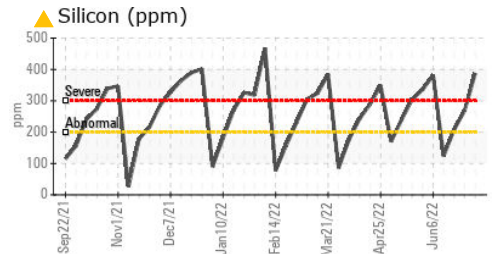
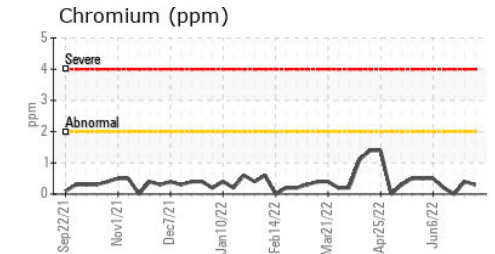
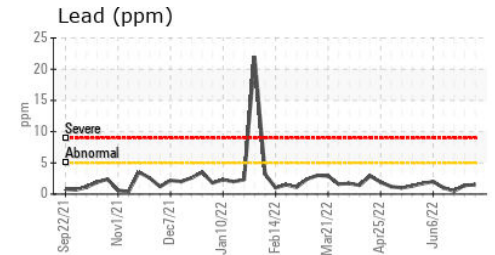
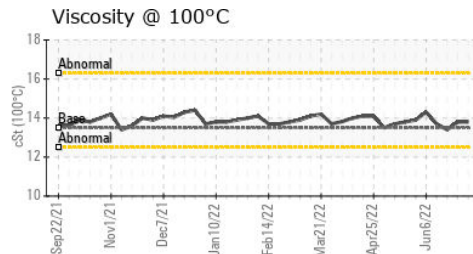
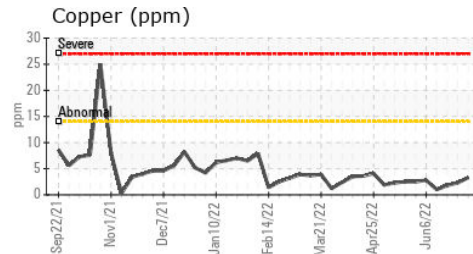
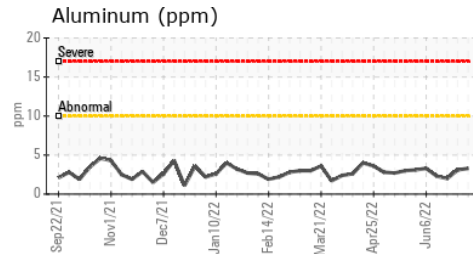
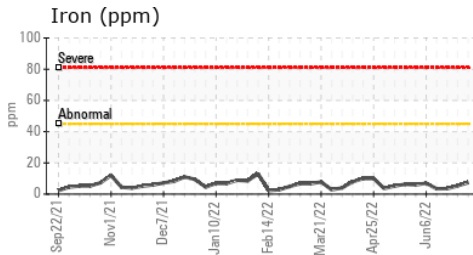
OIL ANALYSIS REPORT



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	LIGHT	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	13.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0699033 **Received** : 08 Jul 2022
Lab Number : 05586897 **Tested** : 12 Jul 2022
Unique Number : 10046344 **Diagnosed** : 12 Jul 2022 - 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

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)

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