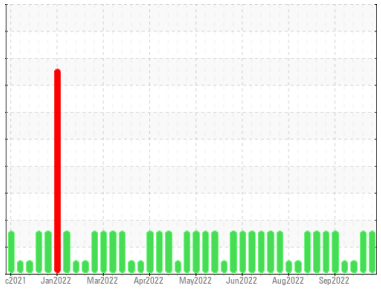
OIL ANALYSIS REPORT

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

Sample Rating Trend



DIRT

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Total oil added 112 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		**WC0699048**	WC0699053	WC0699046
Sample Date		Client Info		**11 Oct 2022**	03 Oct 2022	27 Sep 2022
Machine Age	hrs	Client Info		**117880**	117687	117546
Oil Age	hrs	Client Info		**640**	421	280
Oil Changed		Client Info		**Not Changd**	N/A	Not Changd
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**	5	5
Chromium	ppm	ASTM D5185m	>2	**<1**	0	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	1	0
Titanium	ppm	ASTM D5185m		**<1**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**3**	2	2
Lead	ppm	ASTM D5185m	>5	**<1**	2	1
Copper	ppm	ASTM D5185m	>14	**3**	2	2
Tin	ppm	ASTM D5185m	>13	**6**	4	3
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	<1
Barium	ppm	ASTM D5185m	1	**0**	0	0
Molybdenum	ppm	ASTM D5185m	2	**1**	2	1
Manganese	ppm	ASTM D5185m	1	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	9	**20**	12	15
Calcium	ppm	ASTM D5185m	2712	**3204**	2970	3205
Phosphorus	ppm	ASTM D5185m	292	**300**	273	344
Zinc	ppm	ASTM D5185m	342	**375**	324	379
Sulfur	ppm	ASTM D5185m	2575	**4057**	3671	4383

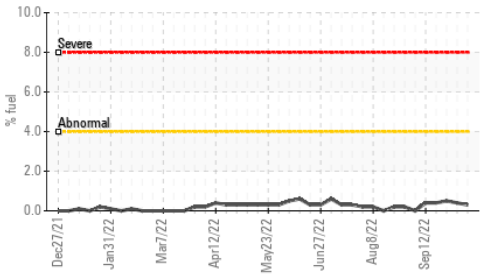
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>200	▲ **306**	▲ 252	189
Sodium	ppm	ASTM D5185m		**<1**	1	1
Potassium	ppm	ASTM D5185m	>20	**0**	0	0
Fuel	%	ASTM D3524	>4.0	**0.3**	0.4	0.5

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**6.9**	6.2	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.1**	21.6	20.0

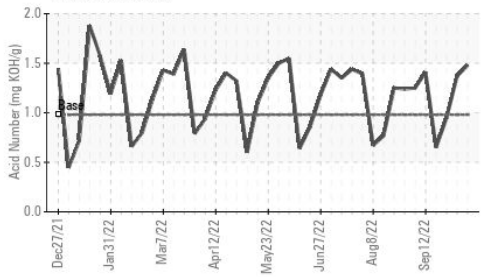
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.6**	13.0	11.3
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	**1.48**	1.37	0.95
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	**6.28**	6.47	7.77

OIL ANALYSIS REPORT

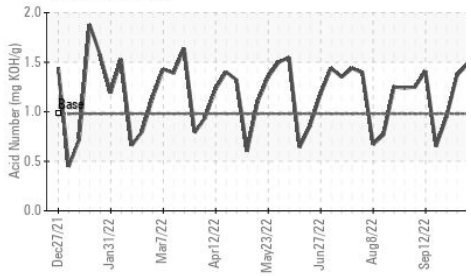
Fuel Dilution



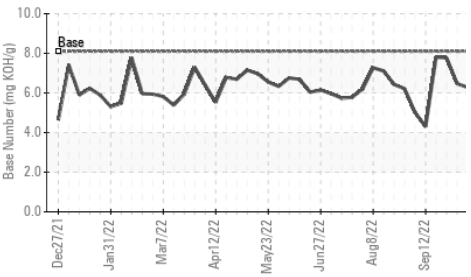
Acid Number



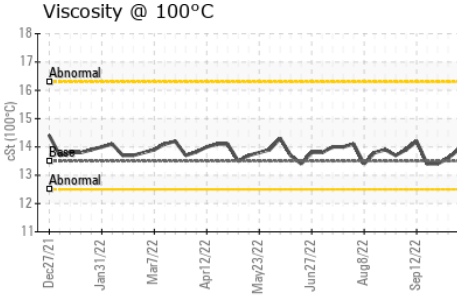
Acid Number



Base Number



Viscosity @ 100°C

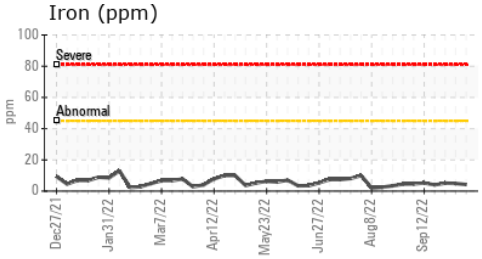


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

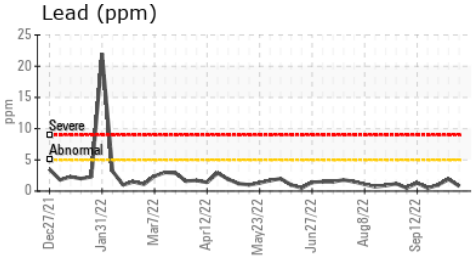
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.5	**13.9**	13.6	13.4

GRAPHS

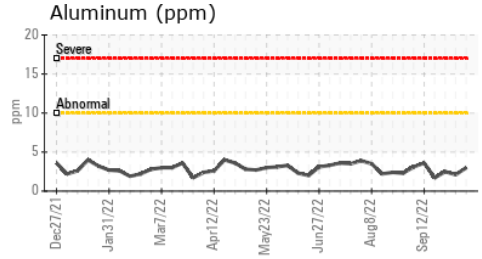
Iron (ppm)



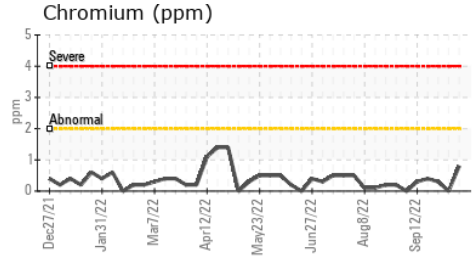
Lead (ppm)



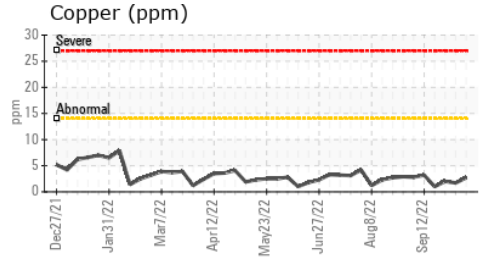
Aluminum (ppm)



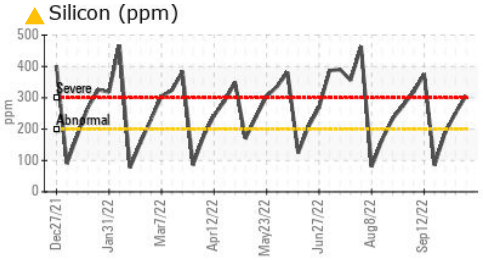
Chromium (ppm)



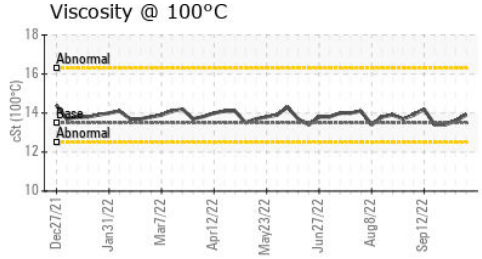
Copper (ppm)



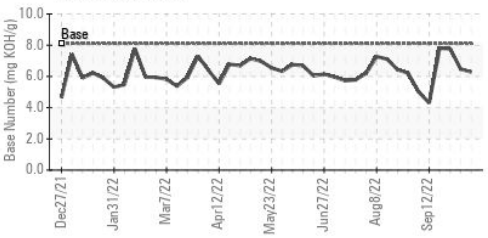
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0699048 **Received** : 14 Oct 2022
Lab Number : 05667710 **Tested** : 18 Oct 2022
Unique Number : 10177280 **Diagnosed** : 18 Oct 2022 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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)

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