



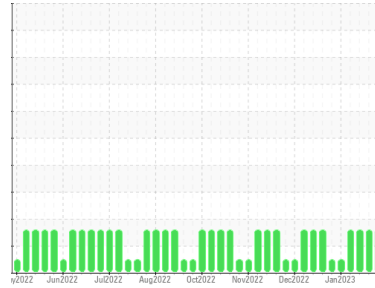
OIL ANALYSIS REPORT

Sample Rating Trend

DIRT



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 121 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		WC0699016	WC0699083	WC0699078
Sample Date	Client Info		27 Feb 2023	21 Feb 2023	13 Feb 2023
Machine Age	hrs	Client Info	121125	120992	120818
Oil Age	hrs	Client Info	862	729	555
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	7	6	4
Chromium	ppm	ASTM D5185m	>2	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>10	3	2	2
Lead	ppm	ASTM D5185m	>5	1	<1	2
Copper	ppm	ASTM D5185m	>14	3	2	2
Tin	ppm	ASTM D5185m	>13	7	6	5
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	0	0	<1	0
Barium	ppm	ASTM D5185m	1	0	0	0
Molybdenum	ppm	ASTM D5185m	2	1	<1	1
Manganese	ppm	ASTM D5185m	1	<1	<1	<1
Magnesium	ppm	ASTM D5185m	9	15	17	17
Calcium	ppm	ASTM D5185m	2712	3072	3033	3125
Phosphorus	ppm	ASTM D5185m	292	295	284	318
Zinc	ppm	ASTM D5185m	342	383	326	381
Sulfur	ppm	ASTM D5185m	2575	4102	3565	3710

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>200	▲ 396	▲ 375	▲ 292
Sodium	ppm	ASTM D5185m		2	2	1
Potassium	ppm	ASTM D5185m	>20	0	0	<1
Fuel	%	ASTM D3524	>4.0	0.4	0.4	0.4

INFRA-RED

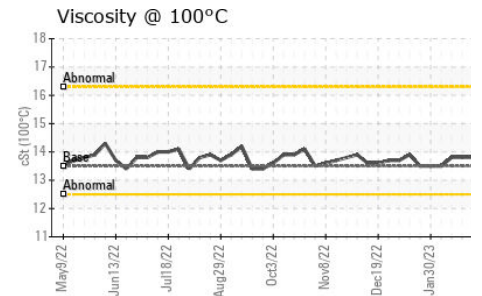
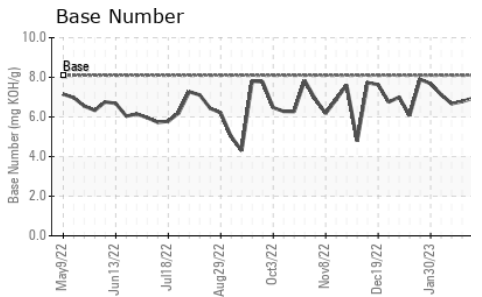
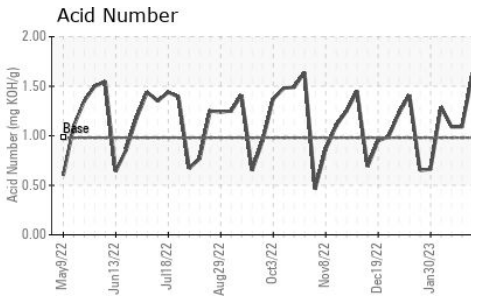
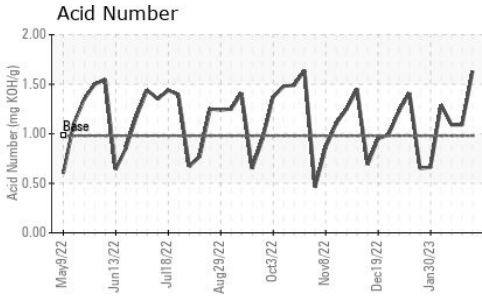
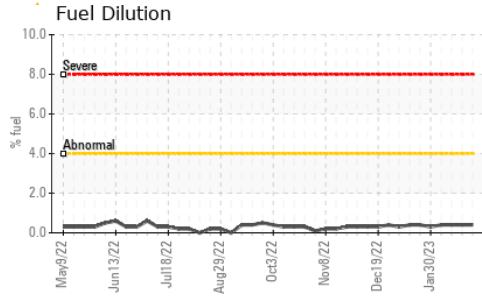
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.9	6.2	5.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	22.3	20.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	14.1	12.8
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	1.63	1.09	1.09
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	6.94	6.78	6.67



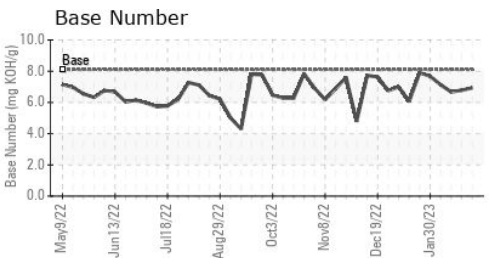
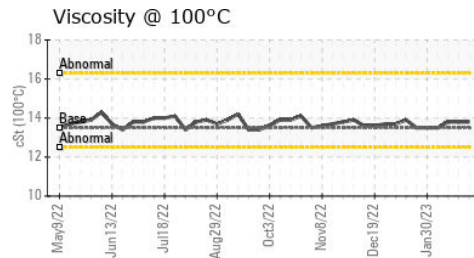
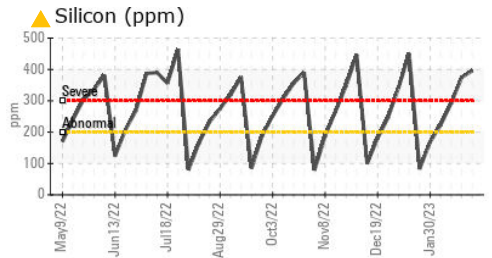
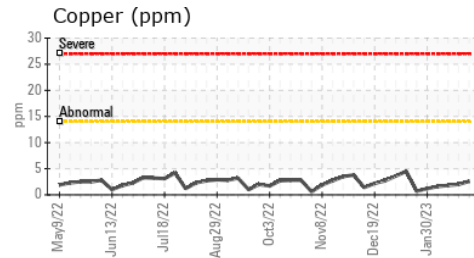
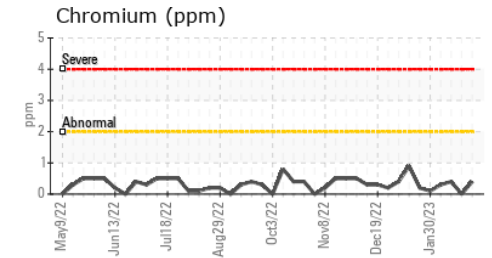
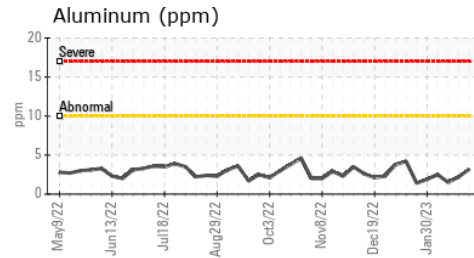
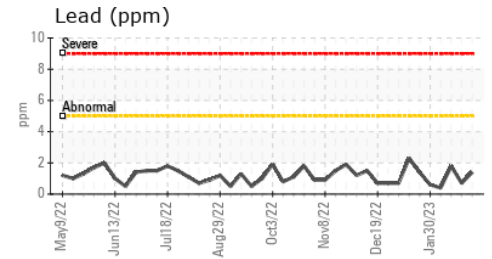
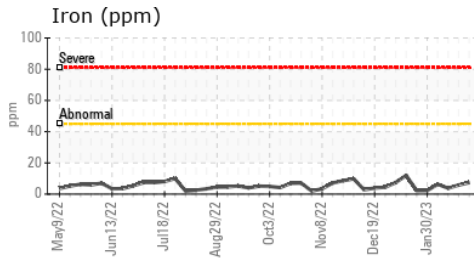
OIL ANALYSIS REPORT



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	13.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0699016 **Received** : 02 Mar 2023
Lab Number : 05781306 **Tested** : 03 Mar 2023
Unique Number : 10360976 **Diagnosed** : 03 Mar 2023 - 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:

Certificate L2367
 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)