



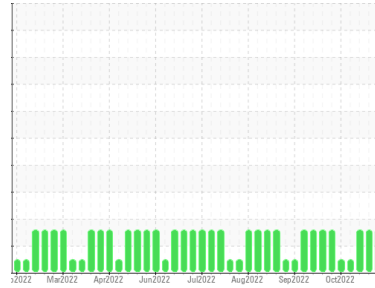
OIL ANALYSIS REPORT

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 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		WC0698990	WC0698993	WC0699059
Sample Date	Client Info		05 Dec 2022	28 Nov 2022	16 Nov 2022
Machine Age	hrs	Client Info	119189	119020	118734
Oil Age	hrs	Client Info	928	759	473
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	10	9	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	4	2	3
Lead	ppm	ASTM D5185m	>5	1	2	2
Copper	ppm	ASTM D5185m	>14	4	4	3
Tin	ppm	ASTM D5185m	>13	8	7	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	1	1	1
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	14	17	16
Calcium	ppm	ASTM D5185m	2712	3337	2973	2855
Phosphorus	ppm	ASTM D5185m	292	309	306	285
Zinc	ppm	ASTM D5185m	342	406	356	334
Sulfur	ppm	ASTM D5185m	2575	4199	3692	3429

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>200	▲ 446	▲ 348	▲ 267
Sodium	ppm	ASTM D5185m		<1	<1	0
Potassium	ppm	ASTM D5185m	>20	1	0	0
Fuel	%	ASTM D3524	>4.0	0.3	0.3	0.2

INFRA-RED

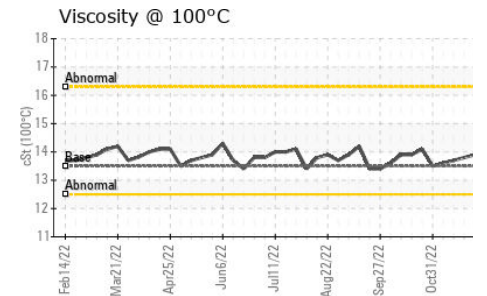
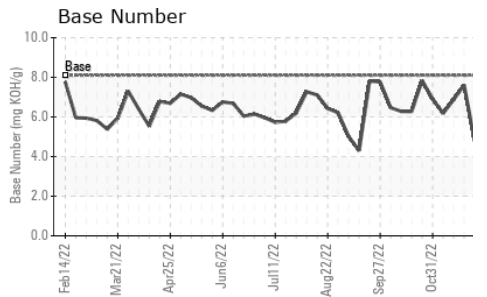
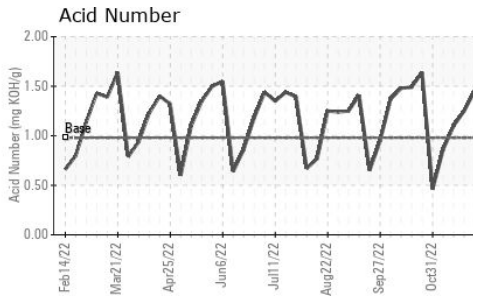
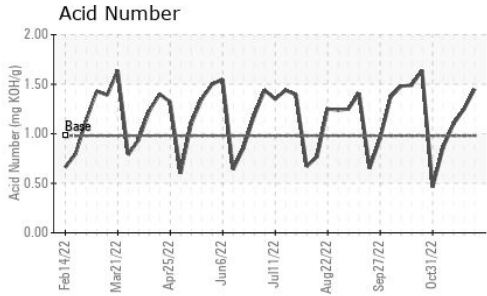
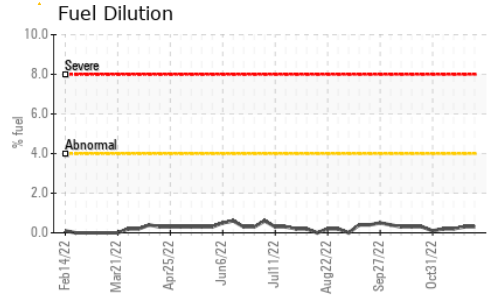
	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844		0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.9	6.7	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.6	23.8	22.0

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	14.9	12.8
Acid Number (AN)	mg KOH/g	ASTM D8045	0.98	1.45	1.25	1.10
Base Number (BN)	mg KOH/g	ASTM D2896	8.1	4.78	7.61	6.87



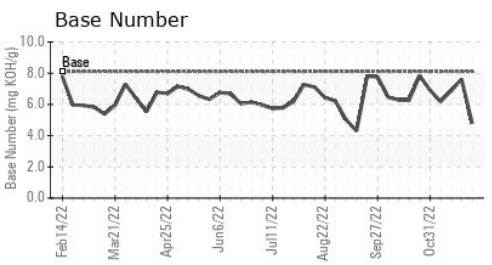
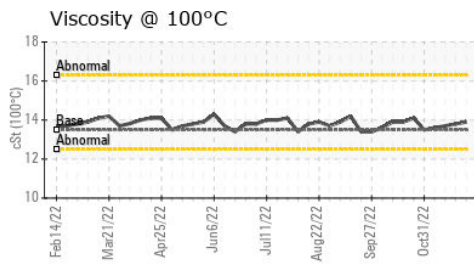
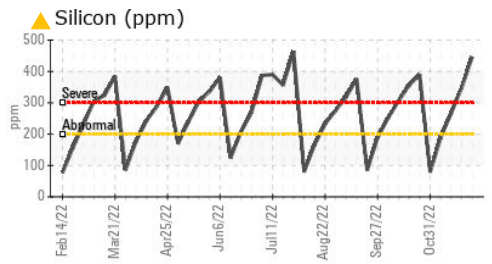
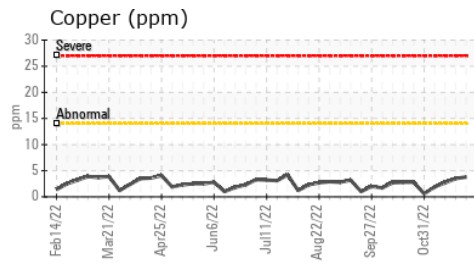
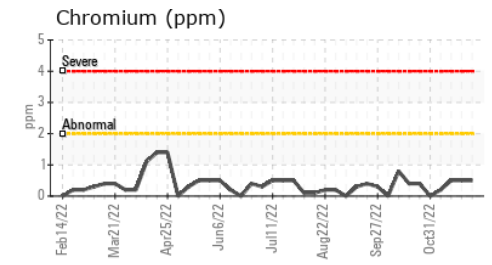
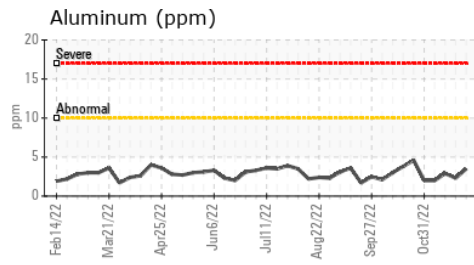
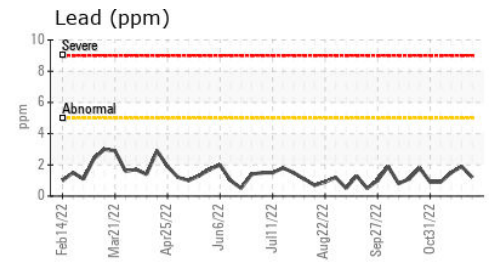
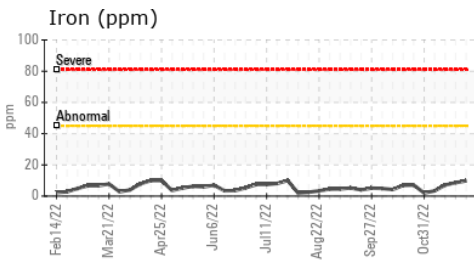
OIL ANALYSIS REPORT



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	13.9	13.8	13.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0698990 **Received** : 07 Dec 2022
Lab Number : 05711795 **Tested** : 14 Dec 2022
Unique Number : 10246370 **Diagnosed** : 14 Dec 2022 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel)

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 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)