

Machine Id
FRICK NEW
Component
Compressor
Fluid
Compressor Oil (--- GAL)

DIAGNOSIS

Recommendation
The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a light concentration of water present in the oil.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			TO60002362	TO60001069	TO60001084
Sample Date	Client Info			04 Apr 2024	02 Oct 2023	07 Sep 2023
Machine Age	hrs	Client Info		19865	19865	19277
Oil Age	hrs	Client Info		6348	6936	7695
Oil Changed	Client Info			Oil Added	N/A	N/A
Sample Status				ATTENTION	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	0	0	0
Chromium	ppm	ASTM D5185m	>5	0	0	0
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	6	0
Lead	ppm	ASTM D5185m	>65	<1	0	0
Copper	ppm	ASTM D5185m	>65	0	0	0
Tin	ppm	ASTM D5185m	>10	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	<1
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	0	0
Magnesium	ppm	ASTM D5185m		0	0	<1
Calcium	ppm	ASTM D5185m		2	0	7
Phosphorus	ppm	ASTM D5185m		5	0	7
Zinc	ppm	ASTM D5185m		<1	0	6
Sulfur	ppm	ASTM D5185m		1917	3205	3508

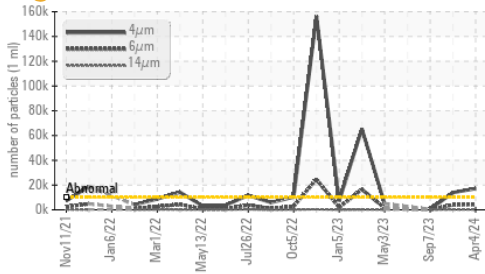
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	14	8	4
Sodium	ppm	ASTM D5185m		0	0	0
Potassium	ppm	ASTM D5185m	>20	0	0	2
Water	%	ASTM D6304	>0.1	▲ 0.270	▲ 0.362	▲ 0.472
ppm Water	ppm	ASTM D6304	>1000	▲ 2702	▲ 3627.4	▲ 4720.4

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	● 17183	● 13901	330
Particles >6µm		ASTM D7647	>2500	● 4284	● 4039	122
Particles >14µm		ASTM D7647	>320	199	236	24
Particles >21µm		ASTM D7647	>80	39	80	8
Particles >38µm		ASTM D7647	>20	1	1	0
Particles >71µm		ASTM D7647	>4	0	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	● 21/19/15	● 21/19/15	16/14/12

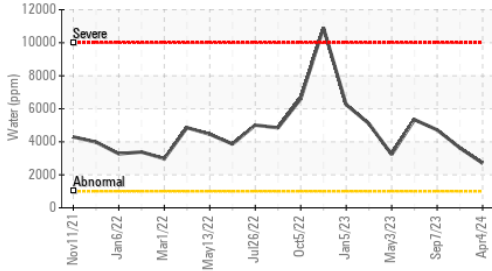
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.89	1.147	1.01

OIL ANALYSIS REPORT

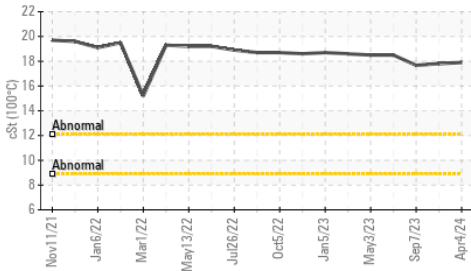
Particle Trend



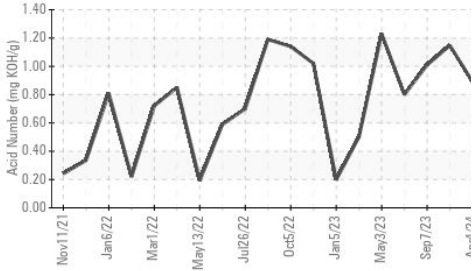
Water (KF)



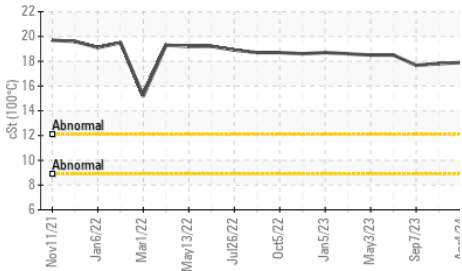
Viscosity @ 100°C



Acid Number



Viscosity @ 100°C



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 @ 40°C	cSt	ASTM D445	107	106	109
Visc @ 100°C	cSt	ASTM D445	17.9	17.8	17.67
Viscosity Index (VI)	Scale	ASTM D2270	185	185	179

SAMPLE IMAGES

Color

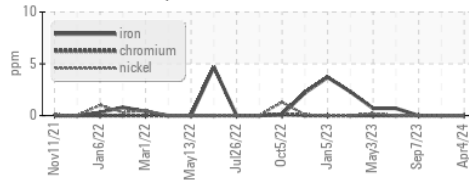


Bottom

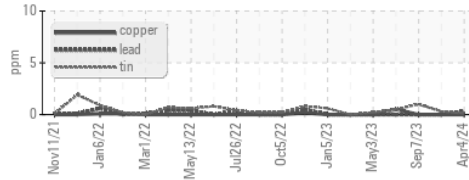


GRAPHS

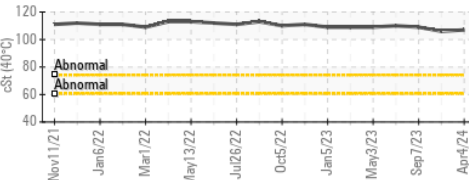
Ferrous Alloys



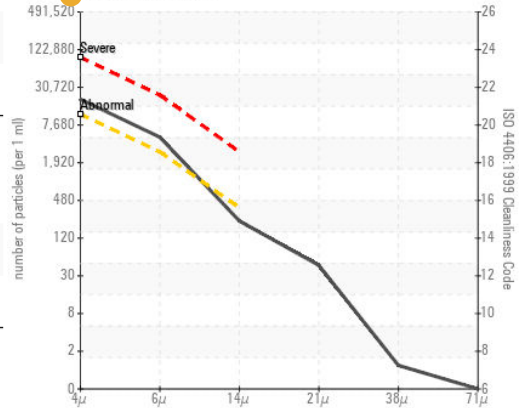
Non-ferrous Metals



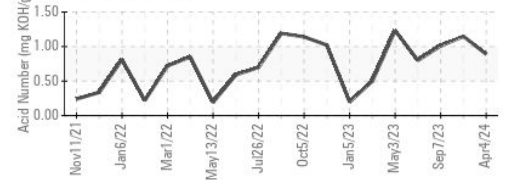
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60002362
Lab Number : 06151235
Unique Number : 10981313
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

BLUE RIDGE RENEWABLES
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 FRESNO, TX
 US 77545
 Contact: Ezequiel Tirado
 ztirado@morrowenergy.com
 T: (214)425-5006
 F: x:

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)