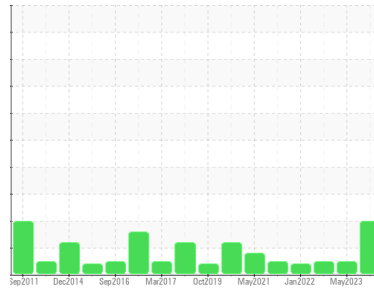




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
KAESER ASD-40 3976695 (S/N 1380)
 Component
Compressor
 Fluid
KAESER SIGMA (OEM) S-460 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

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			KCPA017113	KCPA000422	KCP51405
Sample Date	Client Info			09 Apr 2024	16 May 2023	17 Jun 2022
Machine Age	hrs	Client Info		7793	70175	62383
Oil Age	hrs	Client Info		8000	0	7000
Oil Changed	Client Info			Changed	N/A	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	0	0	0
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>3	<1	0	0
Titanium	ppm	ASTM D5185m	>3	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>10	<1	0	<1
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>50	5	3	5
Tin	ppm	ASTM D5185m	>10	<1	0	<1
Antimony	ppm	ASTM D5185m		---	---	---
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	0	0
Barium	ppm	ASTM D5185m	90	0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		1	0	0
Magnesium	ppm	ASTM D5185m	90	4	4	10
Calcium	ppm	ASTM D5185m	2	<1	0	0
Phosphorus	ppm	ASTM D5185m		0	6	10
Zinc	ppm	ASTM D5185m		0	0	10
Sulfur	ppm	ASTM D5185m		22464	22127	21195

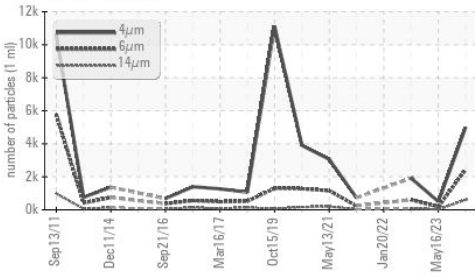
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	0	0	<1
Sodium	ppm	ASTM D5185m		3	2	2
Potassium	ppm	ASTM D5185m	>20	2	1	2
Water	%	ASTM D6304	>0.05	0.006	0.003	0.011
ppm Water	ppm	ASTM D6304	>500	62	36.0	119.3

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		4983	501	1918
Particles >6µm		ASTM D7647	>1300	▲ 2440	185	607
Particles >14µm		ASTM D7647	>80	▲ 608	22	75
Particles >21µm		ASTM D7647	>20	▲ 216	9	18
Particles >38µm		ASTM D7647	>4	▲ 8	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>--/17/13	▲ 19/18/16	16/15/12	18/16/13

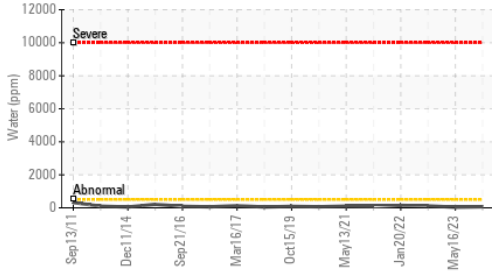
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.4	0.36	0.32	0.30

OIL ANALYSIS REPORT

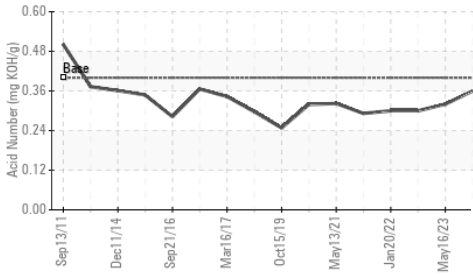
▲ Particle Trend



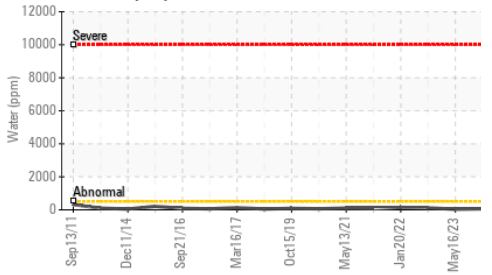
Water (KF)



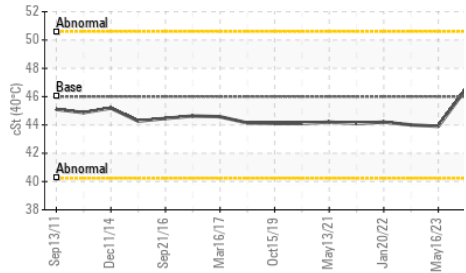
Acid Number



Water (KF)



Viscosity @ 40°C



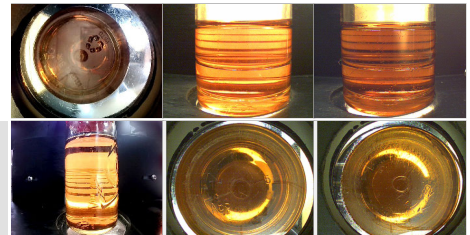
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	46.5	43.9	44.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------

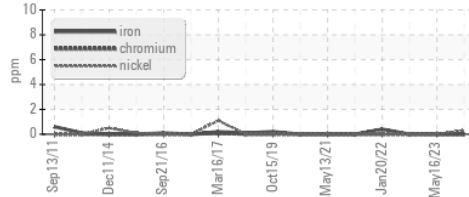
Color

Bottom

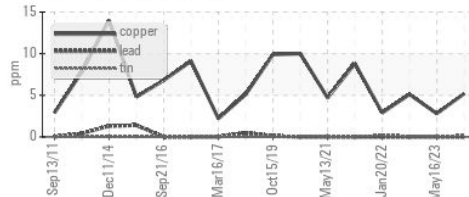


GRAPHS

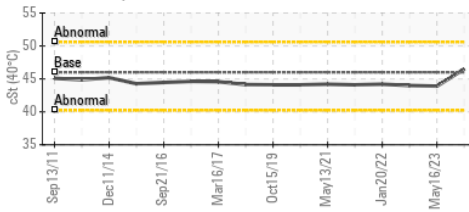
Ferrous Alloys



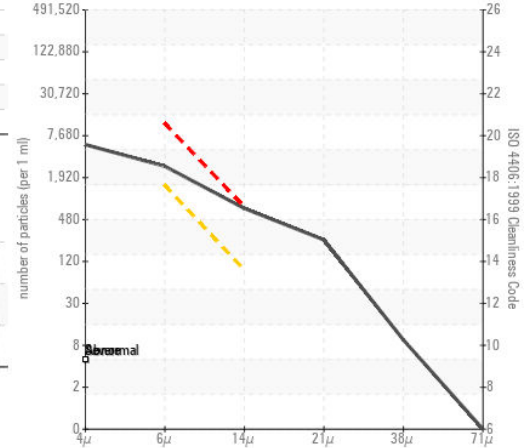
Non-ferrous Metals



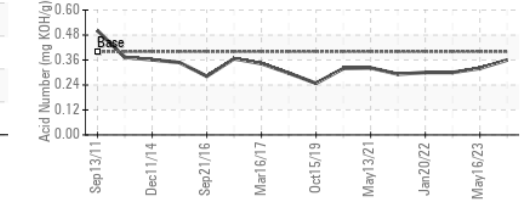
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : KCPA017113

Lab Number : 06151211

Unique Number : 10981289

Test Package : IND 2 (Additional Tests: KF, PrtCount)

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)

Received : 16 Apr 2024

Tested : 19 Apr 2024

Diagnosed : 19 Apr 2024 - Don Baldrige

GEORGIA BIOMASS - ENVIVA PELLET

3390 INDUSTRIAL BLVD

WAYCROSS, GA

US 31503

Contact: RENN HOOPER

renn.hooper@envivabiomass.com

T:

F: