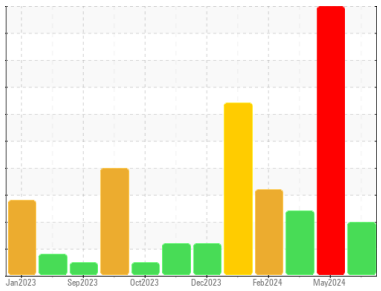
OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Area
RRJ
Machine Id
B-01-402 Biogas Blower Non-Drive End
Component
Non-Drive End Compressor
Fluid
GARDNER DENVER AEON PD (--- GAL)

DIAGNOSIS

Recommendation
We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
All component wear rates are normal.

Contamination
Moderate concentration of visible dirt/debris present in the oil. There is a moderate concentration of water 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		**TWC0000004**	WC0886364	WC0886374
Sample Date		Client Info		**31 May 2024**	02 May 2024	26 Mar 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**36**	▲ 135	▲ 51
Chromium	ppm	ASTM D5185m	>10	**2**	10	4
Nickel	ppm	ASTM D5185m		**0**	<1	<1
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**<1**	2	3
Lead	ppm	ASTM D5185m	>25	**0**	0	<1
Copper	ppm	ASTM D5185m	>50	**<1**	<1	1
Tin	ppm	ASTM D5185m	>15	**<1**	2	1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	<1	<1
Barium	ppm	ASTM D5185m		**<1**	0	0
Molybdenum	ppm	ASTM D5185m		**3**	<1	0
Manganese	ppm	ASTM D5185m		**<1**	1	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	<1
Calcium	ppm	ASTM D5185m		**2**	4	5
Phosphorus	ppm	ASTM D5185m		**654**	663	631
Zinc	ppm	ASTM D5185m		**3**	9	4
Sulfur	ppm	ASTM D5185m		**699**	954	662

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**6**	6	4
Sodium	ppm	ASTM D5185m		**0**	0	0
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Water	%	ASTM D6304	>0.1	▲ **0.206**	▲ 2.49	▲ 0.534
ppm Water	ppm	ASTM D6304	>1000	▲ **2060**	▲ 24900	▲ 5340

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**---**	---	1740
Particles >6µm		ASTM D7647	>2500	**---**	---	948
Particles >14µm		ASTM D7647	>320	**---**	---	161
Particles >21µm		ASTM D7647	>80	**---**	---	54
Particles >38µm		ASTM D7647	>20	**---**	---	8
Particles >71µm		ASTM D7647	>4	**---**	---	1
Oil Cleanliness		ISO 4406 (c)	>20/18/15	**---**	---	18/17/15

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.51**	0.57	0.63

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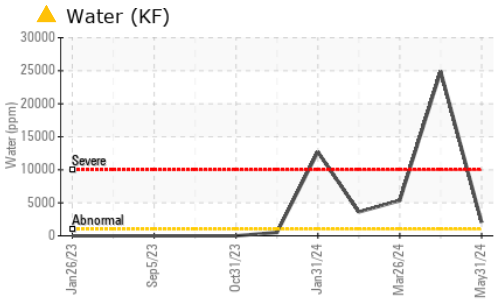
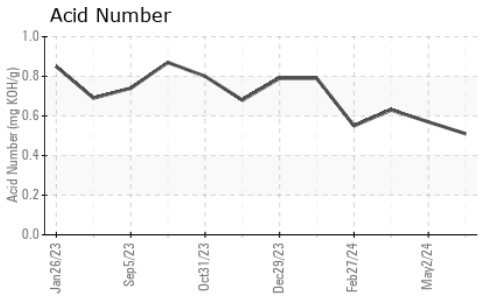
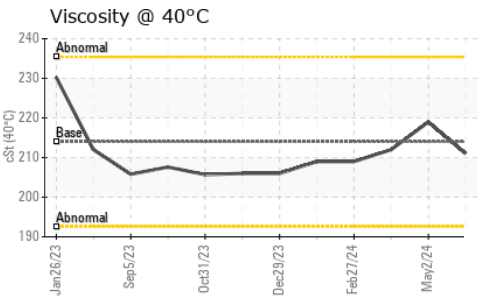




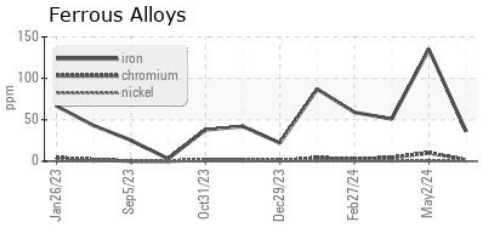


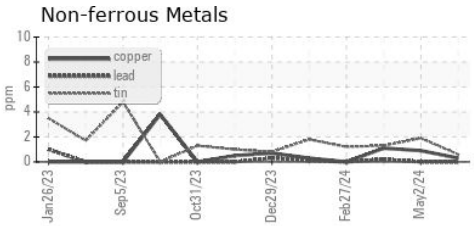
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	● HAZY	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**0.2%**	▲ 0.2%	0.2%
Free Water	scalar	*Visual		**NEG**	▲ 2.0	NEG

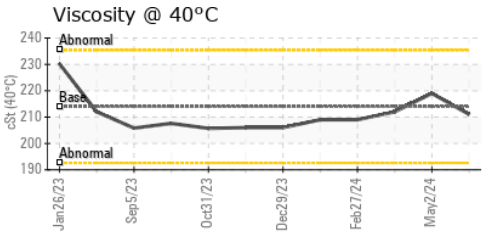
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	214	**211**	219	212

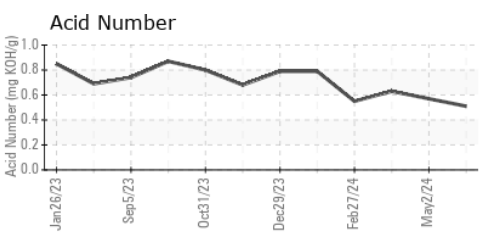
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TWC0000004
Lab Number : 06200122
Unique Number : 11062245
Test Package : PLANT (Additional Tests: KF)

Received : 05 Jun 2024
Tested : 07 Jun 2024
Diagnosed : 07 Jun 2024 - Don Baldridge

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)

GEVO Inc.
2498 250th Street
Doon, IA
US 51235
Contact: Service Manager
T:
F:

Report Id: GEVDOO [WUSCAR] 06200122 (Generated: 06/07/2024 14:55:19) Rev: 1

Submitted By: KYLE HUTCHINSON