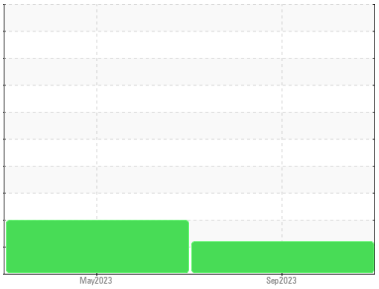
PROBLEM SUMMARY

Sample Rating Trend

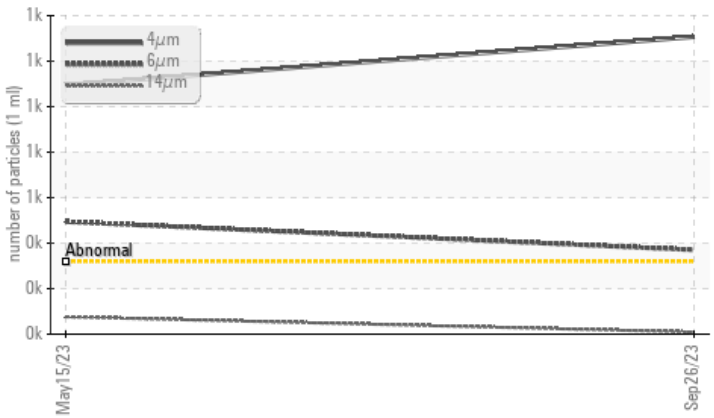


ISO

Area
[184562-N2STV4W]
Machine Id
BLUE ORIGIN G1 HPU
Component
Hydraulic System
Fluid
RADCOLUBE FR282 (200 GAL)

COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	---
Particles >4µm		ASTM D7647	>320	▲ **1307**	▲ 1095	---
Particles >6µm		ASTM D7647	>80	▲ **370**	▲ 494	---
Oil Cleanliness		ISO 4406 (c)	>15/13/10	▲ **18/16/10**	▲ 17/16/13	---
PrtFilter						*no image*

Customer Id: BLUVAN
Sample No.: PH05963588
Lab Number: 05963588
Test Package: PLANT

To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.

HISTORICAL DIAGNOSIS

15 May 2023 Diag: Doug Bogart

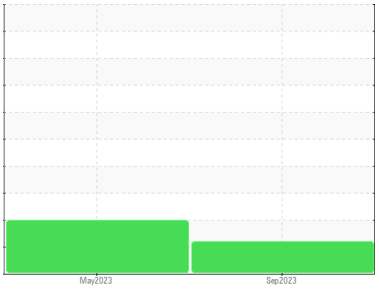
ISO

We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
[184562-N2STV4W]
Machine Id
BLUE ORIGIN G1 HPU
Component
Hydraulic System
Fluid
RADCOLUBE FR282 (200 GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Fuel content negligible. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. Chlorine measured at 15.2 ppm.

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

Particle Filter (Magn: 200 x)

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PH05963588**	PH05853919	---
Sample Date		Client Info		**26 Sep 2023**	15 May 2023	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ABNORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	0	---
Chromium	ppm	ASTM D5185m	>20	**0**	0	---
Nickel	ppm	ASTM D5185m	>20	**0**	0	---
Titanium	ppm	ASTM D5185m		**0**	0	---
Silver	ppm	ASTM D5185m		**0**	0	---
Aluminum	ppm	ASTM D5185m	>20	**<1**	0	---
Lead	ppm	ASTM D5185m	>20	**0**	0	---
Copper	ppm	ASTM D5185m	>20	**<1**	<1	---
Tin	ppm	ASTM D5185m	>20	**0**	0	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	0	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	0	---
Manganese	ppm	ASTM D5185m		**<1**	0	---
Magnesium	ppm	ASTM D5185m		**0**	0	---
Calcium	ppm	ASTM D5185m		**0**	1	---
Phosphorus	ppm	ASTM D5185m		**18**	21	---
Zinc	ppm	ASTM D5185m		**0**	4	---
Sulfur	ppm	ASTM D5185m		**119**	71	---

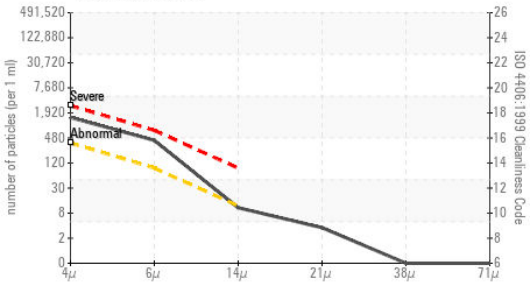
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	<1	---
Sodium	ppm	ASTM D5185m		**<1**	0	---
Potassium	ppm	ASTM D5185m	>20	**0**	<1	---
Chlorine Content	ppm	ASTM D5185m		**15.2**	---	---
Water	%	ASTM D6304	>0.05	**0.011**	---	---
ppm Water	ppm	ASTM D6304	>500	**111.4**	---	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>320	▲ **1307**	▲ 1095	---
Particles >6µm		ASTM D7647	>80	▲ **370**	▲ 494	---
Particles >14µm		ASTM D7647	>10	**9**	▲ 76	---
Particles >21µm		ASTM D7647	>3	**3**	▲ 23	---
Particles >38µm		ASTM D7647	>3	**0**	1	---
Particles >71µm		ASTM D7647	>3	**0**	0	---
Oil Cleanliness		ISO 4406 (c)	>15/13/10	▲ **18/16/10**	▲ 17/16/13	---

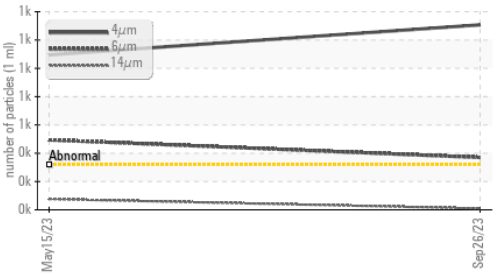
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.09	**0.16**	0.39	---

OIL ANALYSIS REPORT

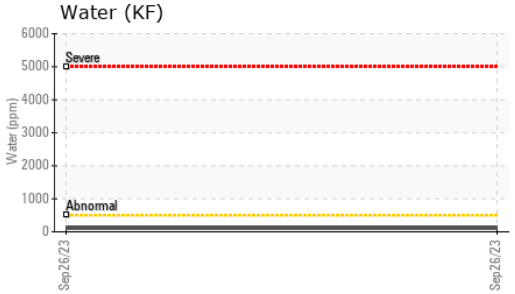
Particle Count



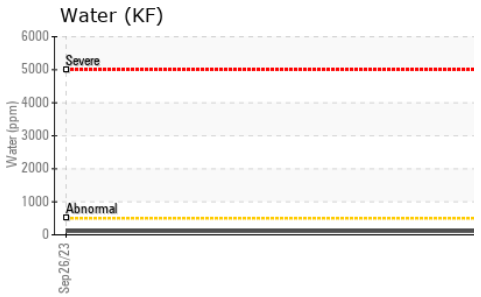
Particle Trend



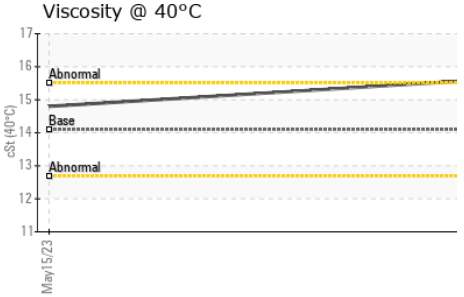
Water (KF)



Water (KF)

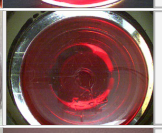


Viscosity @ 40°C



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**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.05	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	14.1	**15.6**	14.8	---

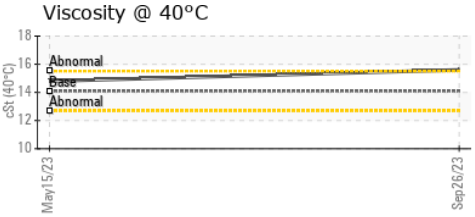
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					no image
Bottom					no image
PrtFilter					no image

GRAPHS

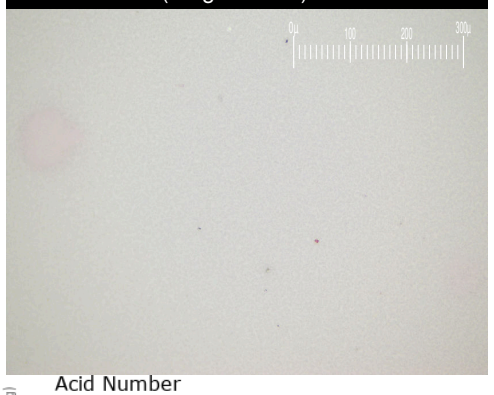
Ferrous Alloys

Non-ferrous Metals

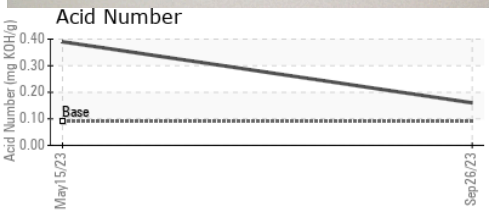
Viscosity @ 40°C



Particle Filter (Magn: 200 x)



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PH05963588 **Received** : 28 Sep 2023
Lab Number : 05963588 **Diagnosed** : 05 Oct 2023
Unique Number : 10670139 **Diagnostician** : Doug Bogart
Test Package : PLANT (Additional Tests: CHLORINEXRF, KF, PrtFilter)

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)

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