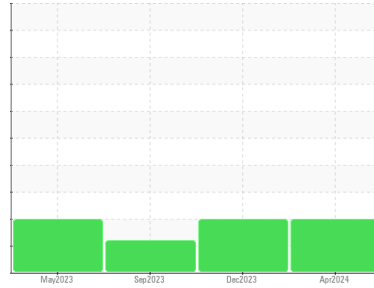




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



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. 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. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. Chlorine 0.0 ppm.

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	PH0003814	PH0003816	PH05963588
Sample Date	Client Info	03 Apr 2024	11 Dec 2023	26 Sep 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	Filtered	N/A
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	0	0	0
Chromium	ppm	ASTM D5185m >20	<1	<1	0
Nickel	ppm	ASTM D5185m >20	0	0	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	2	1	<1
Lead	ppm	ASTM D5185m >20	0	0	0
Copper	ppm	ASTM D5185m >20	<1	0	<1
Tin	ppm	ASTM D5185m >20	<1	0	0
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	0	8	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	<1	<1	0
Calcium	ppm	ASTM D5185m	5	<1	0
Phosphorus	ppm	ASTM D5185m	20	32	18
Zinc	ppm	ASTM D5185m	6	7	0
Sulfur	ppm	ASTM D5185m	9	54	119

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >15	0	0	0
Sodium	ppm	ASTM D5185m	0	0	<1
Potassium	ppm	ASTM D5185m >20	<1	<1	0
Chlorine Content	ppm	ASTM D5185m	0.0	5.20	15.2
Water	%	ASTM D6304 >0.05	0.009	0.008	0.011
ppm Water	ppm	ASTM D6304 >500	90	82	111.4

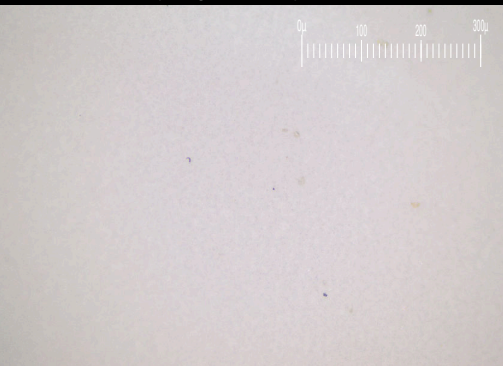
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >320	▲ 8417	▲ 1721	▲ 1307
Particles >6µm	ASTM D7647 >80	▲ 4005	▲ 757	▲ 370
Particles >14µm	ASTM D7647 >10	▲ 734	▲ 114	9
Particles >21µm	ASTM D7647 >3	▲ 208	▲ 26	3
Particles >38µm	ASTM D7647 >3	3	0	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >15/13/10	▲ 20/19/17	▲ 18/17/14	▲ 18/16/10

FLUID DEGRADATION

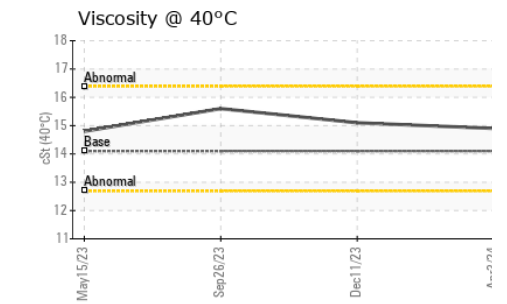
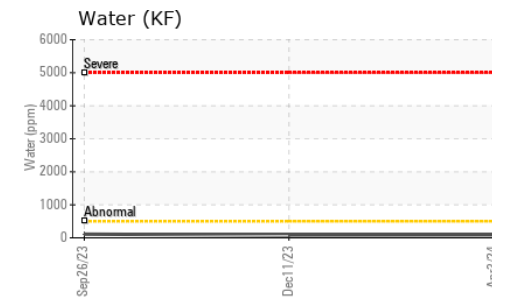
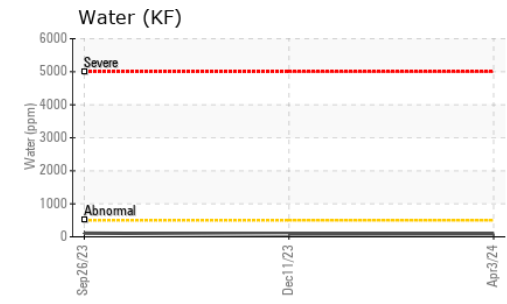
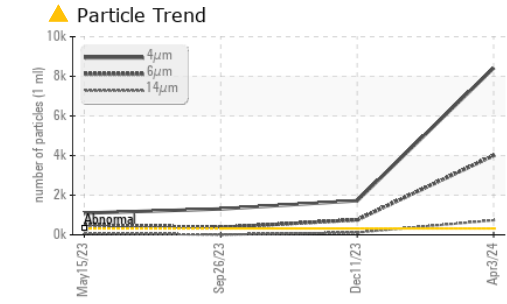
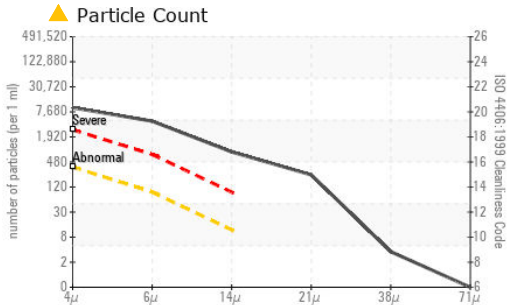
method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.09	0.18	0.23	0.16

Particle Filter (Magn: 200 x)





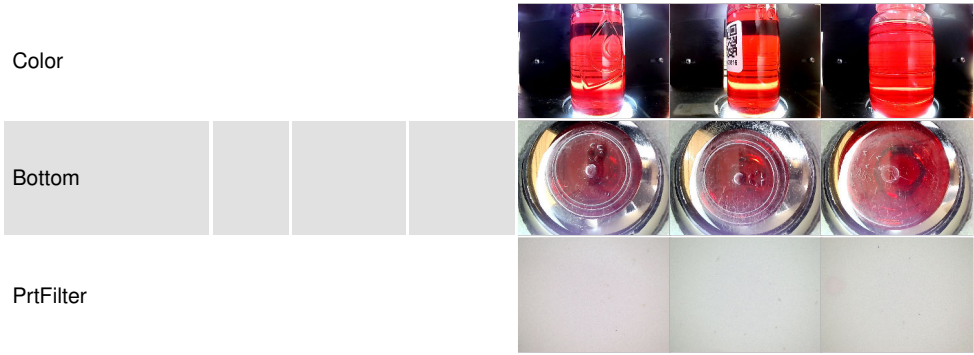
OIL ANALYSIS REPORT



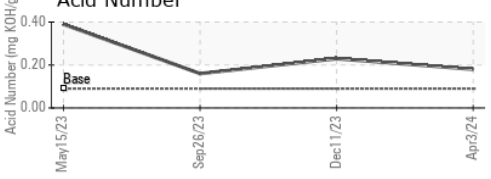
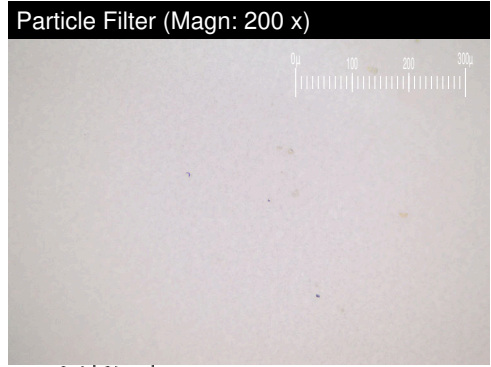
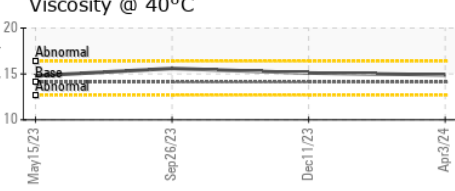
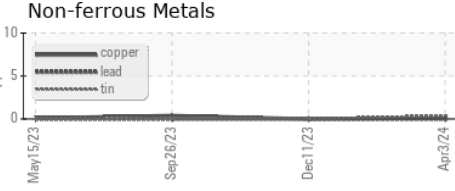
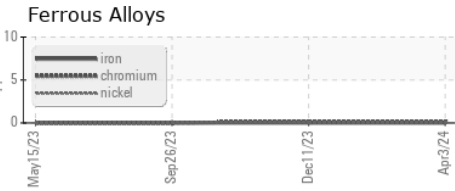
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	14.1	14.9	15.1

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PH0003814 **Received** : 04 Apr 2024
Lab Number : 06139110 **Tested** : 04 Apr 2024
Unique Number : 10963918 **Diagnosed** : 04 Apr 2024 - Doug Bogart
Test Package : PLANT (Additional Tests: CHLORINEXRF, KF, PrtFilter)

BLUE ORIGIN
 35961 HWY 54
 VAN HORN, TX
 US 79855
 Contact: MANUEL HERRERA
 mherrera@blueorigin.com

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)