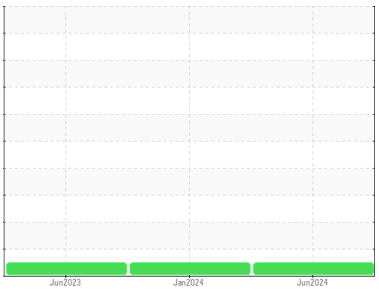
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
BMRC ULTRA SONIC
Component
Hydraulic System
Fluid
ROZEP 68 (20 GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear
All component wear rates are normal.

Contamination
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

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		**TO60002534**	TO60001355	TO60000917
Sample Date		Client Info		**20 Jun 2024**	02 Jan 2024	21 Jun 2023
Machine Age	yrs	Client Info		**20**	20	20
Oil Age	yrs	Client Info		**3**	2	1
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	2	0
Chromium	ppm	ASTM D5185m	>10	**0**	<1	0
Nickel	ppm	ASTM D5185m	>10	**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**0**	2	0
Lead	ppm	ASTM D5185m	>10	**0**	1	<1
Copper	ppm	ASTM D5185m	>75	**2**	3	2
Tin	ppm	ASTM D5185m	>10	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	1	0
Barium	ppm	ASTM D5185m		**0**	8	<1
Molybdenum	ppm	ASTM D5185m		**0**	<1	<1
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**1**	2	7
Calcium	ppm	ASTM D5185m		**118**	61	54
Phosphorus	ppm	ASTM D5185m		**404**	445	386
Zinc	ppm	ASTM D5185m		**474**	519	466
Sulfur	ppm	ASTM D5185m		**1833**	3466	1755

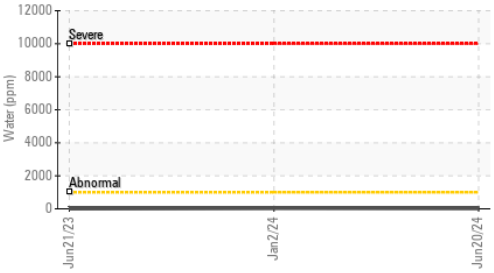
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**<1**	2	1
Sodium	ppm	ASTM D5185m		**1**	0	1
Potassium	ppm	ASTM D5185m	>20	**0**	<1	1
Water	%	ASTM D6304	>0.1	**0.001**	0.002	0.001
ppm Water	ppm	ASTM D6304	>1000	**4**	22	2.6

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**200**	213	383
Particles >6µm		ASTM D7647	>1300	**76**	55	112
Particles >14µm		ASTM D7647	>160	**10**	4	10
Particles >21µm		ASTM D7647	>40	**3**	2	2
Particles >38µm		ASTM D7647	>10	**0**	0	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**15/13/10**	15/13/9	16/14/10

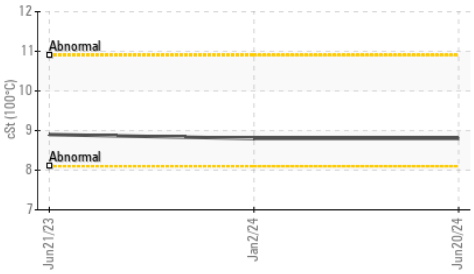
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.30**	0.32	0.29

OIL ANALYSIS REPORT

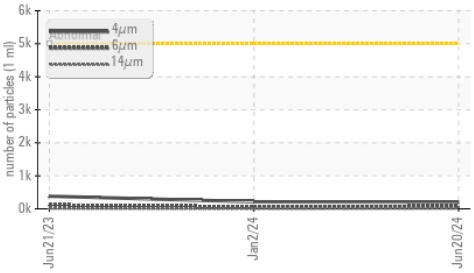
Water (KF)



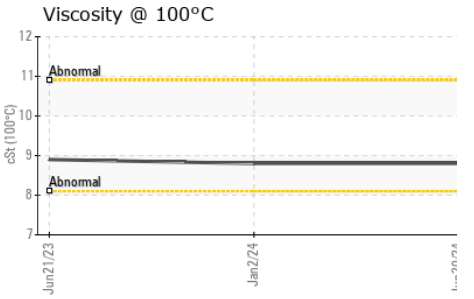
Viscosity @ 100°C



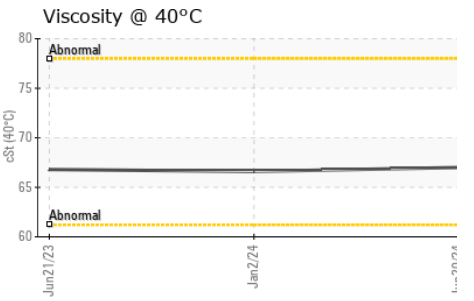
Particle Trend



Viscosity @ 100°C

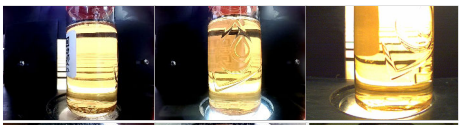


Viscosity @ 40°C



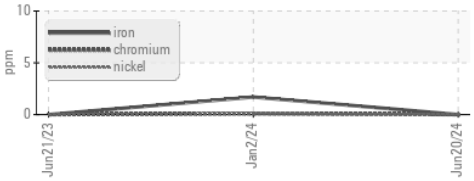
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**67.0**	66.6	66.8
Visc @ 100°C	cSt	ASTM D445		**8.8**	8.8	8.9
Viscosity Index (VI)	Scale	ASTM D2270		**103**	104	106

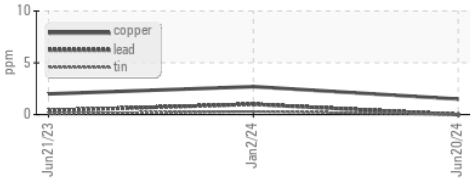
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

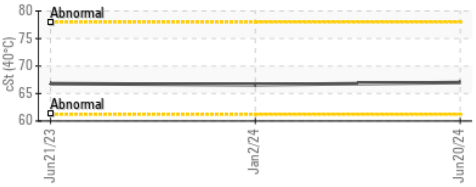
Ferrous Alloys



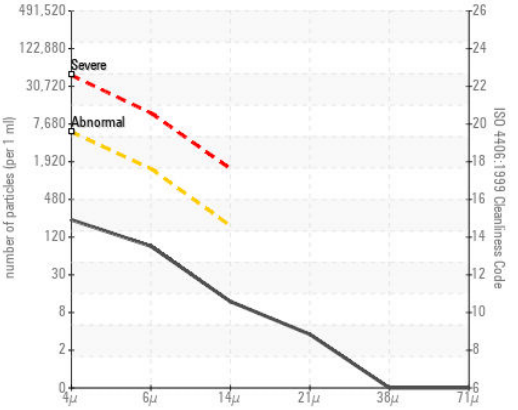
Non-ferrous Metals



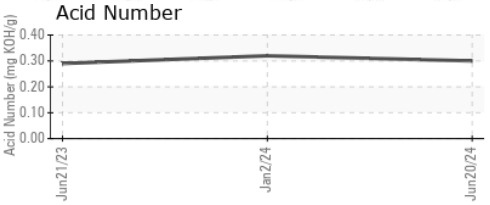
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60002534 **Received** : 25 Jun 2024
Lab Number : 06219661 **Tested** : 26 Jun 2024
Unique Number : 11097858 **Diagnosed** : 26 Jun 2024 - Wes Davis
Test Package : IND 2 (Additional Tests: KF, KV100, VI)

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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BROWNWOOD, TX
US 76801
Contact: RICKY GOTCHER
rgotcherjr@mmm.com
T:
F:

Report Id: 3MBBRO [WUSCAR] 06219661 (Generated: 06/27/2024 07:57:10) Rev: 1

Contact/Location: RICKY GOTCHER - 3MBBRO