MOB II

WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINANTS	NORMAL
OIL CONDITION	NORMAL

Area
STERLING HEIGHTS BAE
Machine Id
H0094
Component
Hydraulic System
Fluid
MILITARY MIL-PRF-46170 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Analytical Ferrography: Results are not conclusive as to if the debris showing at 4µm is dust. Dust is generally an agglomeration of abrasives and that does not appear to be the case, the debris noted on the patch was quite dark while typical external abrasive material is red-brown to pale tan color. The largest particle found was ~8µm and may be wear material from a packing or wiper seal or something similar, but it was too small to get any notable detail from other than general color and some limited morphology details. Based on the cleanliness trend, the system appears to be operating properly and, if it is in the dusty environment you indicated, is also well sealed from external contamination.

WEAR

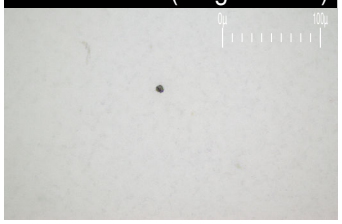
All component wear rates are normal. The ferrography results are normal indicating no abnormal wear in the system.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0869403**	WC0826986	WC0398438
Sample Date		Client Info		**10 Apr 2024**	28 Aug 2023	05 Dec 2022
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Filter Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Filter Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**NORMAL**	ATTENTION	ABNORMAL
Iron	ppm	ASTM D5185m	>20	**0**	<1	<1
Chromium	ppm	ASTM D5185m	>10	**0**	0	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>10	**0**	<1	<1
Lead	ppm	ASTM D5185m	>10	**0**	<1	<1
Copper	ppm	ASTM D5185m	>75	**0**	<1	0
Tin	ppm	ASTM D5185m	>10	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
White Metal	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Ferrous Rubbing	Scale 0-10	*ASTM D7684				
Ferrous Sliding	Scale 0-10	*ASTM D7684				
Ferrous Cutting	Scale 0-10	*ASTM D7684				
Ferrous Rolling	Scale 0-10	*ASTM D7684				
Ferrous Break-in	Scale 0-10	*ASTM D7684				
Ferrous Spheres	Scale 0-10	*ASTM D7684				
Ferrous Black Oxides	Scale 0-10	*ASTM D7684				
Ferrous Red Oxides	Scale 0-10	*ASTM D7684				
Ferrous Corrosive	Scale 0-10	*ASTM D7684				
Ferrous Other	Scale 0-10	*ASTM D7684				
Nonferrous Rubbing	Scale 0-10	*ASTM D7684				
Nonferrous Sliding	Scale 0-10	*ASTM D7684				
Nonferrous Cutting	Scale 0-10	*ASTM D7684				
Nonferrous Rolling	Scale 0-10	*ASTM D7684				
Nonferrous Other	Scale 0-10	*ASTM D7684				

Particle Filter (Magn: 100 x)

Particle Filter (Magn: 500 x)

Particle Filter (Magn: 500 x)



CONTAMINANTS

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

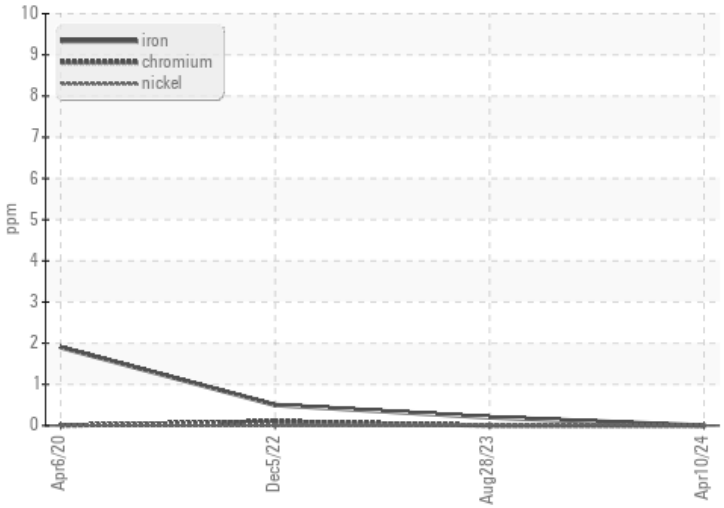
Silicon	ppm	ASTM D5185m	>20	**2**	8	▲ 30
Potassium	ppm	ASTM D5185m	>20	**0**	2	4
Water		WC Method	>0.1	**NEG**	NEG	NEG
Particles >4µm		ASTM D7647	>5000	**4980**	● 7320	▲ 27364
Particles >6µm		ASTM D7647	>1300	**559**	● 1308	▲ 7376
Particles >14µm		ASTM D7647	>160	**30**	70	▲ 203
Particles >21µm		ASTM D7647	>40	**10**	14	26
Particles >38µm		ASTM D7647	>10	**0**	1	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**19/16/12**	● 20/18/13	▲ 22/20/15
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
Carbonaceous Material	Scale 0-10	*ASTM D7684				
Sand/Dirt	Scale 0-10	ASTM D7684				
Fibres	Scale 0-10	*ASTM D7684				
Spheres	Scale 0-10	*ASTM D7684				
Other	Scale 0-10	*ASTM D7684		**1**		

OIL CONDITION

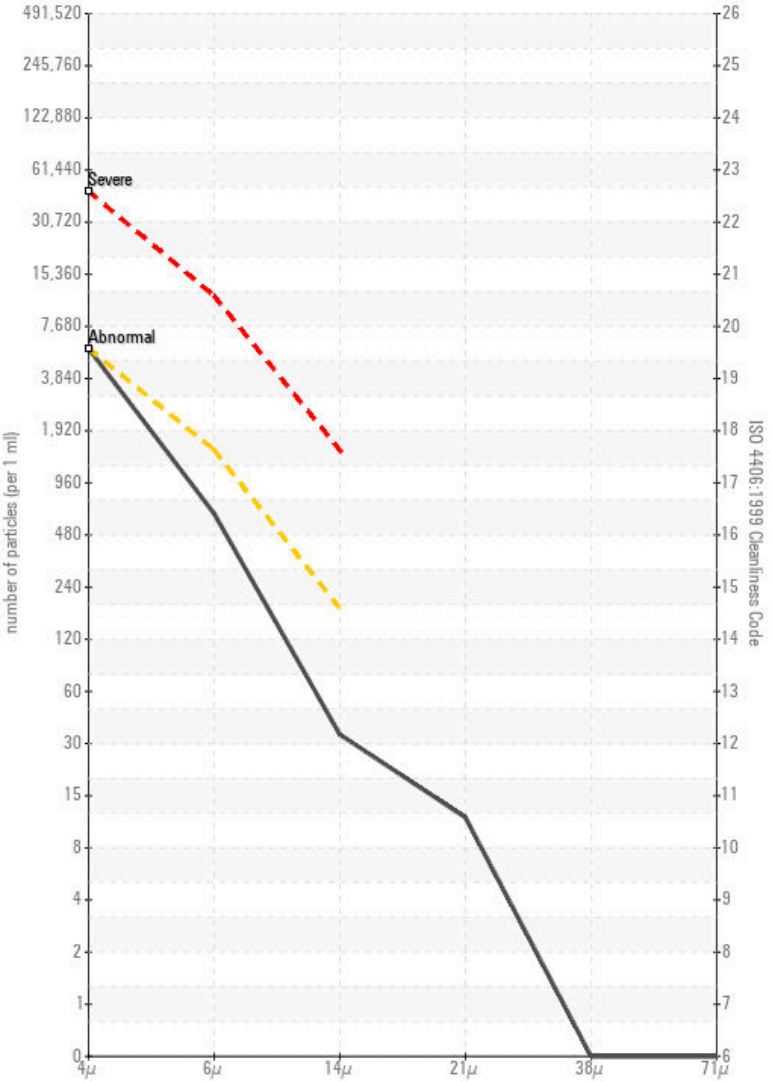
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		**7**	8	12
Boron	ppm	ASTM D5185m		**0**	0	0
Barium	ppm	ASTM D5185m		**993**	2310	2237
Molybdenum	ppm	ASTM D5185m		**0**	0	<1
Manganese	ppm	ASTM D5185m		**0**	<1	<1
Magnesium	ppm	ASTM D5185m		**0**	5	2
Calcium	ppm	ASTM D5185m		**<1**	7	5
Phosphorus	ppm	ASTM D5185m		**403**	545	621
Zinc	ppm	ASTM D5185m		**0**	22	8
Sulfur	ppm	ASTM D5185m		**1602**	1468	1291
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.167**	0.093	0.18
Visc @ 40°C	cSt	ASTM D445		**15.8**	15.8	15.7
Lubricant Degradation	Scale 0-10	*ASTM D7684				

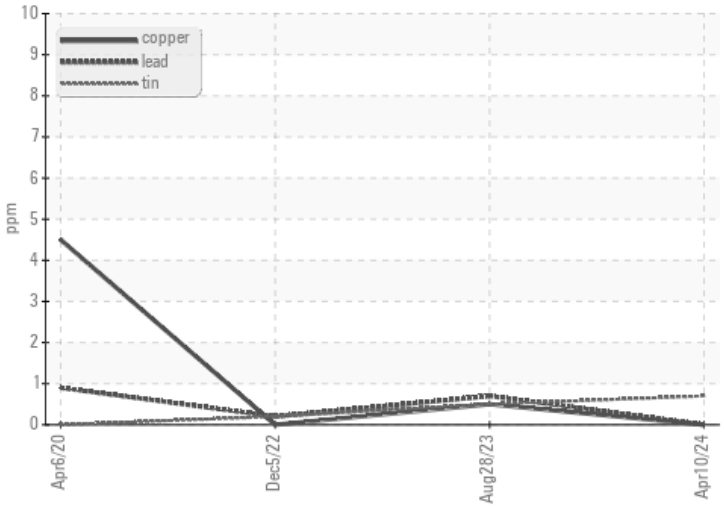
Ferrous Alloys



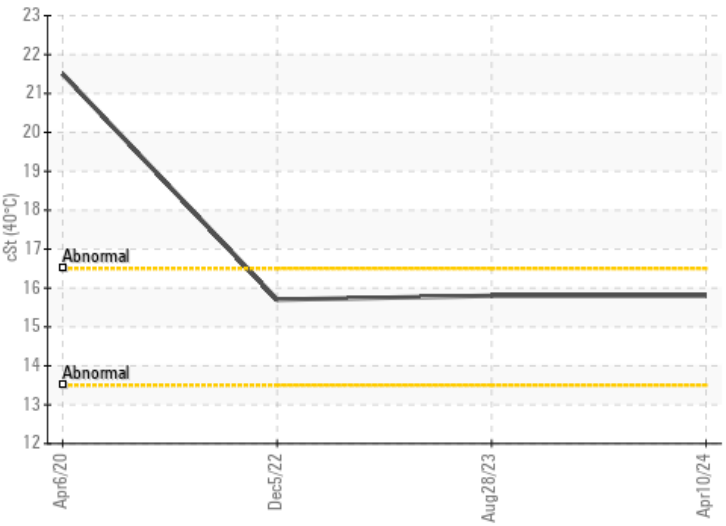
Particle Count



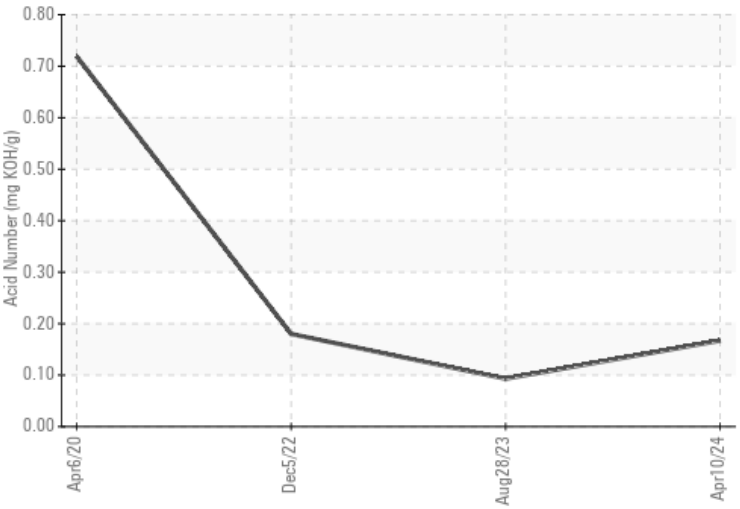
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0869403 **Received** : 16 Apr 2024
Lab Number : 06150269 **Tested** : 17 Apr 2024
Unique Number : 10980347 **Diagnosed** : 17 Apr 2024 - Aaron Black
Test Package : MOB 2 (Additional Tests: A-Ferr, BOTTOM, BottomAnalysis, FILTERPATCH)

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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