MOB II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Area
RIG 3
Machine Id
WHITE STAR 2450 R3-P-02G-NKL
Component
Gearbox
Fluid
Gearbox Oil (--- GAL)

RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. 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

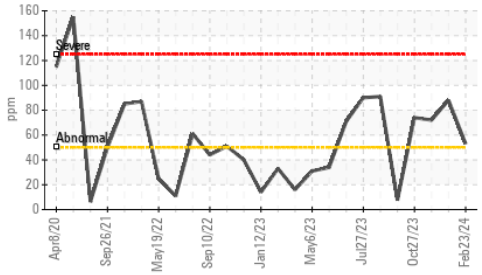
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a high amount of visible silt present in the sample.

FLUID CONDITION

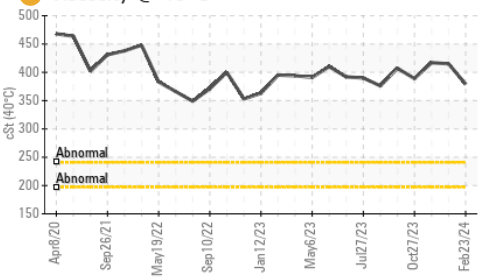
The oil viscosity is lower than normal. The AN level is acceptable for this fluid.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013846	KL0014009	KL0013152
Sample Date		Client Info		23 Feb 2024	17 Jan 2024	28 Dec 2023
Machine Age	days	Client Info		45345	43803	45288
Oil Age	days	Client Info		0	0	0
Filter Age	days	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>200	110	▲ 323	▲ 339
Chromium	ppm	ASTM D5185m	>10	<1	3	2
Nickel	ppm	ASTM D5185m	>10	0	2	2
Titanium	ppm	ASTM D5185m		<1	1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	● 13	● 19	● 14
Lead	ppm	ASTM D5185m	>50	0	0	0
Copper	ppm	ASTM D5185m	>200	11	22	17
Tin	ppm	ASTM D5185m	>10	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>50	▲ 53	▲ 88	▲ 72
Potassium	ppm	ASTM D5185m	>20	18	20	20
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647		---	264627	12414
Particles >6µm		ASTM D7647	>5000	---	▲ 207918	● 6763
Particles >14µm		ASTM D7647	>640	---	▲ 18156	● 1151
Particles >21µm		ASTM D7647	>160	---	▲ 781	● 388
Particles >38µm		ASTM D7647	>40	---	8	● 60
Particles >71µm		ASTM D7647	>10	---	0	6
Oil Cleanliness		ISO 4406 (c)	>19/16	---	▲ 25/21	● 20/17
Silt	scalar	*Visual	NONE	▲ HEAVY	MODER	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	>0.2	NEG	NEG	NEG
Sodium	ppm	ASTM D5185m		200	280	379
Boron	ppm	ASTM D5185m		48	30	30
Barium	ppm	ASTM D5185m		38	76	30
Molybdenum	ppm	ASTM D5185m		428	39	44
Manganese	ppm	ASTM D5185m		2	3	2
Magnesium	ppm	ASTM D5185m		44	57	49
Calcium	ppm	ASTM D5185m		126	159	133
Phosphorus	ppm	ASTM D5185m		243	235	238
Zinc	ppm	ASTM D5185m		44	43	26
Sulfur	ppm	ASTM D5185m		8895	7538	7606
Acid Number (AN)	mg KOH/g	ASTM D8045		0.59	0.41	0.41
Visc @ 40°C	cSt	ASTM D445		● 379	415	417

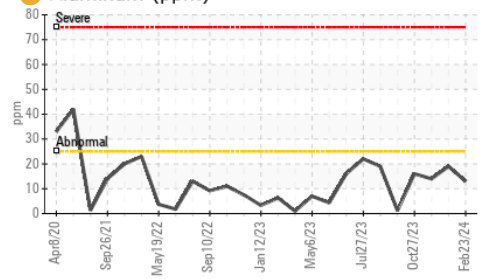
Silicon (ppm)



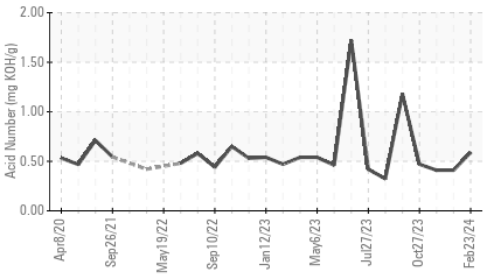
Viscosity @ 40°C



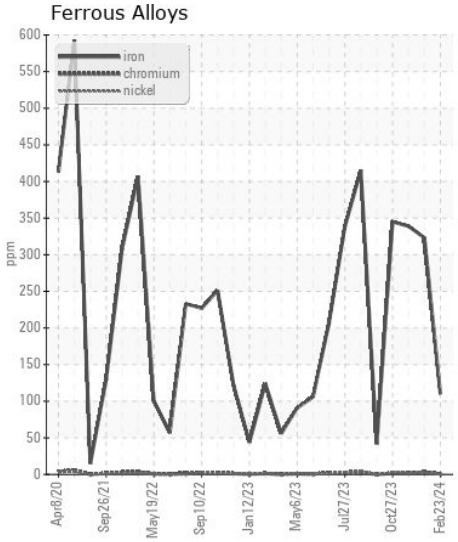
Aluminum (ppm)



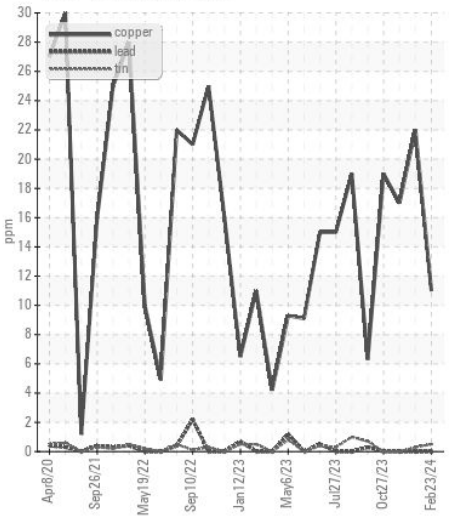
Acid Number



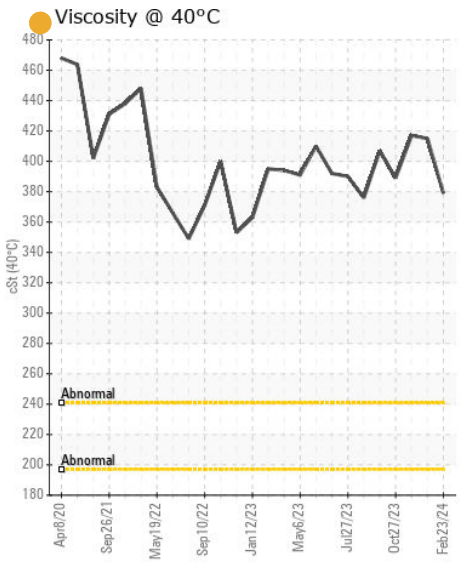
Ferrous Alloys



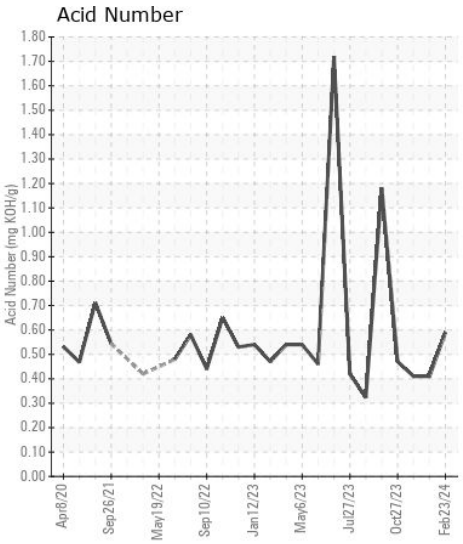
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013846
Lab Number : 06125607
Unique Number : 10939758
Test Package : MOB 2 (Additional Tests: PrtCount)

Received : 21 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 2024 - Jonathan Hester

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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