



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area
RIG 4
Machine Id
WHITE STAR 2450 R4-P-01G NKL
Component
Gearbox
Fluid
GEAR OIL ISO 320 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0013890	KL0014059	KL0013130
Sample Date		Client Info		28 Feb 2024	12 Dec 2023	03 Nov 2023
Machine Age	days	Client Info		45350	45272	45233
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

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	62	▲ 281	209
Chromium	ppm	ASTM D5185m	>10	<1	<1	2
Nickel	ppm	ASTM D5185m	>10	0	2	2
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	● 13	● 14
Lead	ppm	ASTM D5185m	>50	0	0	0
Copper	ppm	ASTM D5185m	>200	9	23	18
Tin	ppm	ASTM D5185m	>10	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

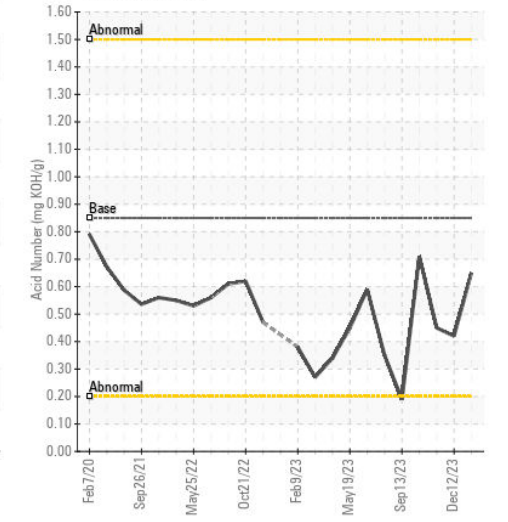
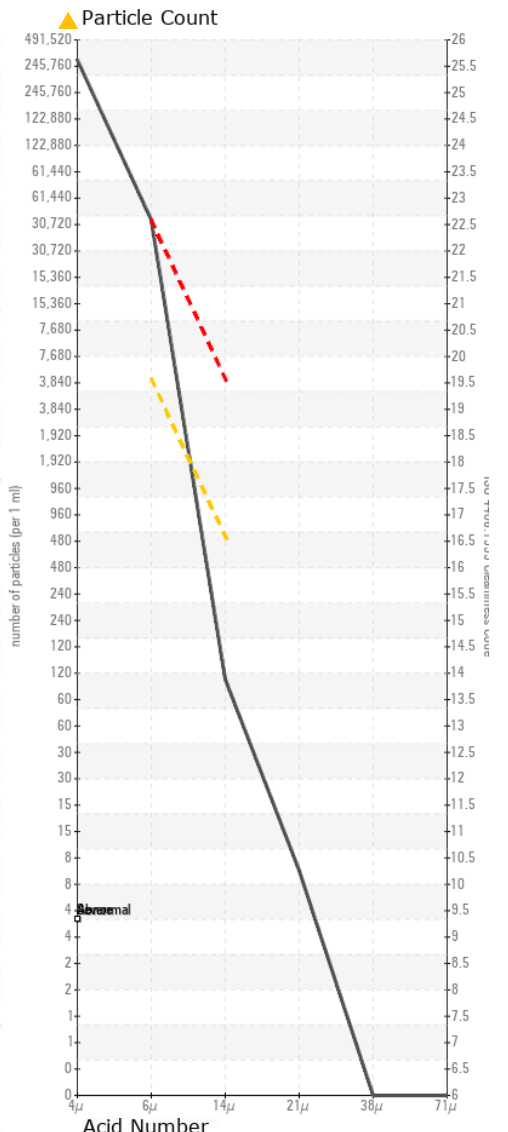
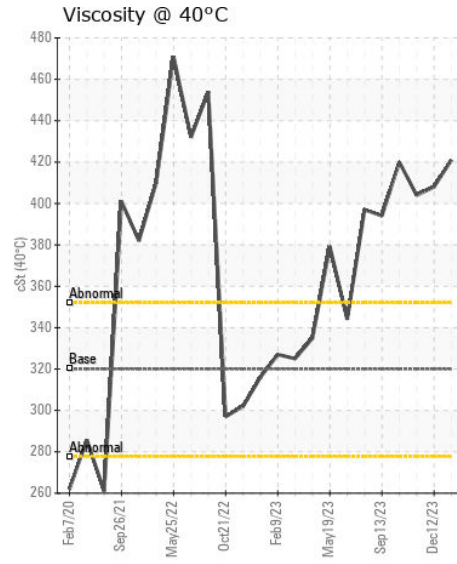
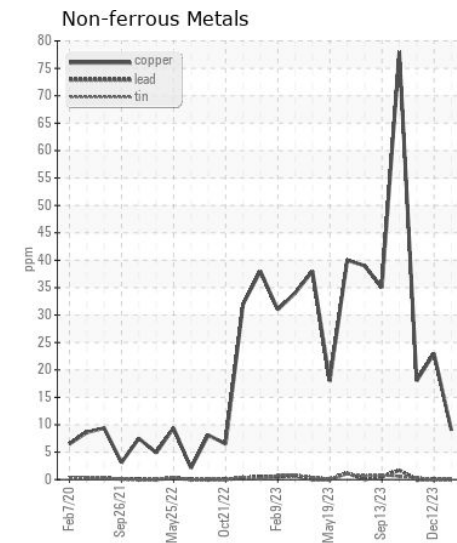
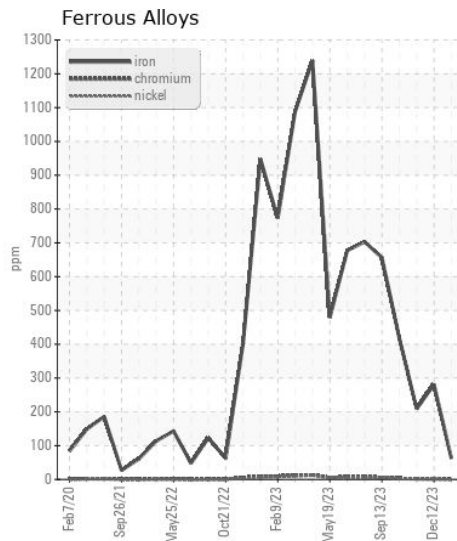
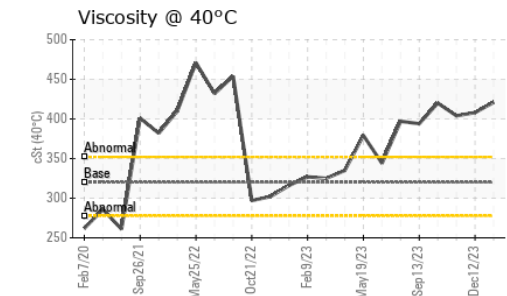
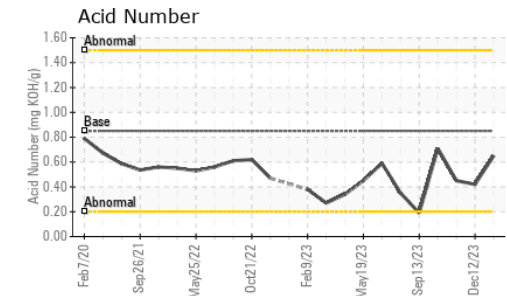
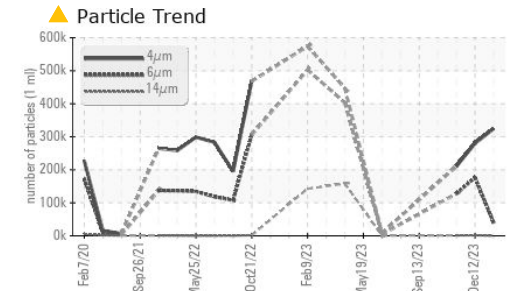
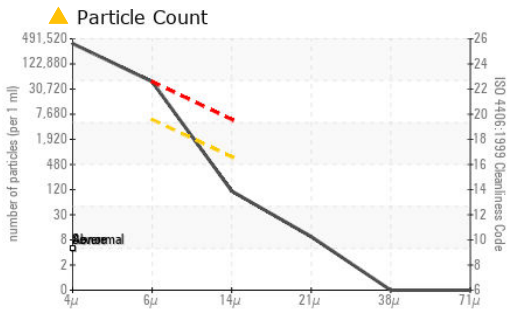
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>50	16	▲ 60	▲ 59
Potassium	ppm	ASTM D5185m	>20	0	9	8
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647		324604	280125	210206
Particles >6µm		ASTM D7647	>5000	▲ 39971	▲ 176440	▲ 127596
Particles >14µm		ASTM D7647	>640	98	▲ 1761	▲ 1113
Particles >21µm		ASTM D7647	>160	8	▲ 161	119
Particles >38µm		ASTM D7647	>40	0	2	5
Particles >71µm		ASTM D7647	>10	0	1	1
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 22/14	▲ 25/18	▲ 24/17
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		25	160	138
Boron	ppm	ASTM D5185m	50	27	25	27
Barium	ppm	ASTM D5185m	15	4	28	29
Molybdenum	ppm	ASTM D5185m	15	11	15	15
Manganese	ppm	ASTM D5185m		1	1	2
Magnesium	ppm	ASTM D5185m	50	4	27	22
Calcium	ppm	ASTM D5185m	50	23	98	81
Phosphorus	ppm	ASTM D5185m	350	250	254	284
Zinc	ppm	ASTM D5185m	100	7	23	15
Sulfur	ppm	ASTM D5185m	12500	8450	7147	7665
Acid Number (AN)	mg KOH/g	ASTM D8045	0.85	0.65	0.42	0.45
Visc @ 40°C	cSt	ASTM D445	320	421	408	404



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0013890 **Received** : 21 Mar 2024
Lab Number : 06125609 **Tested** : 26 Mar 2024
Unique Number : 10939760 **Diagnosed** : 26 Mar 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)