



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

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.

WEAR

Gear wear is indicated.

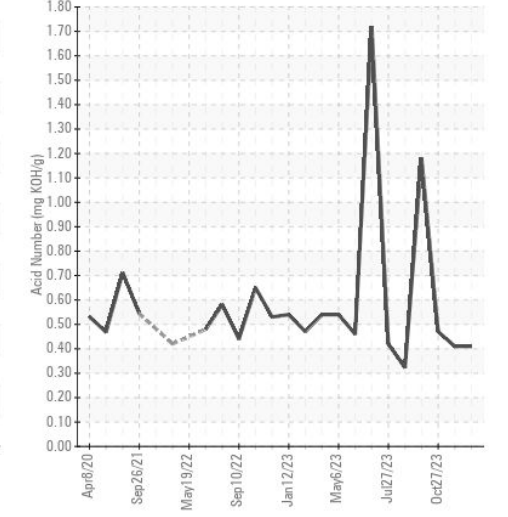
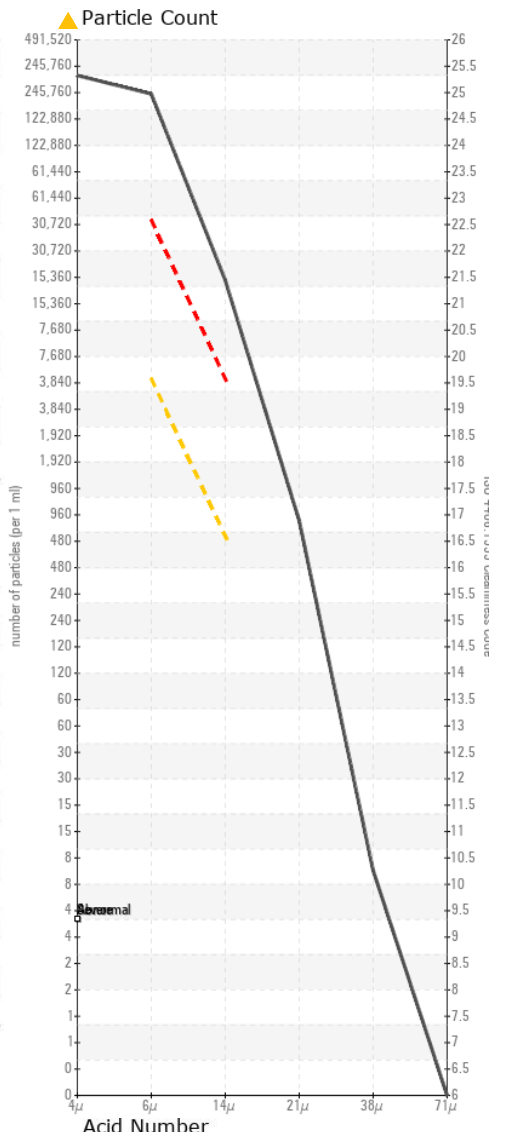
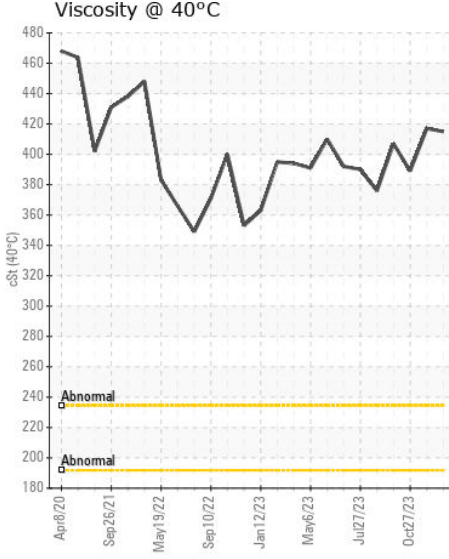
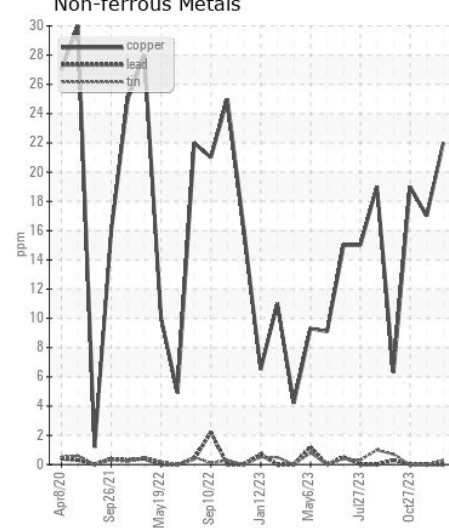
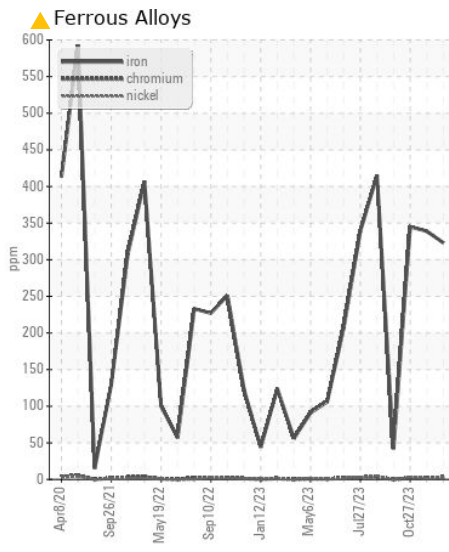
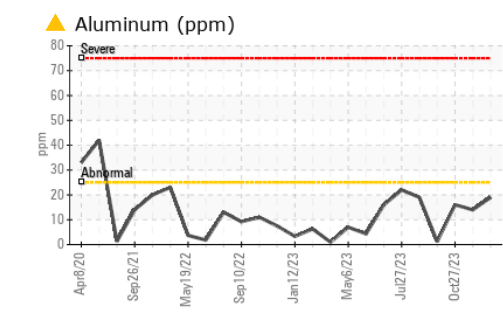
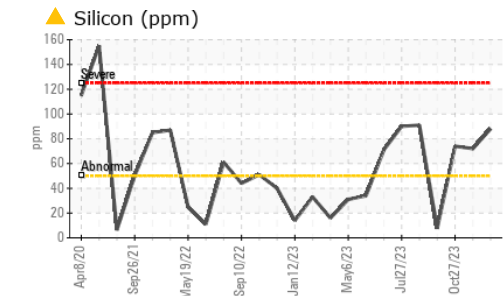
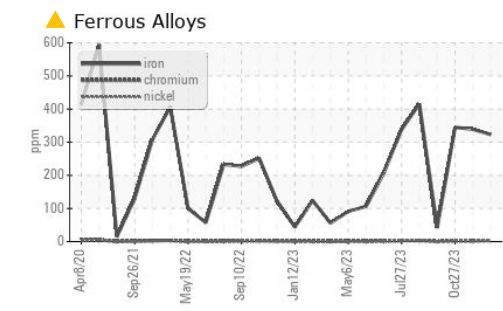
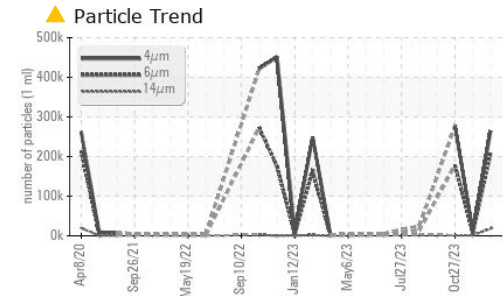
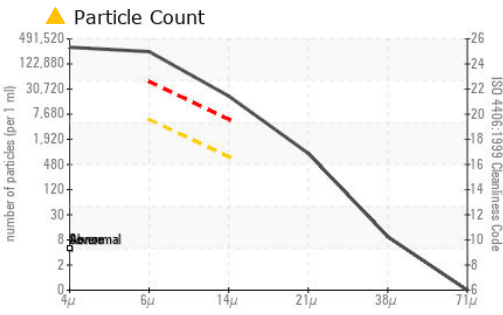
CONTAMINATION

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

FLUID CONDITION

The AN level is acceptable for this fluid.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0014009	KL0013152	KL0013120
Sample Date		Client Info		17 Jan 2024	28 Dec 2023	27 Oct 2023
Machine Age	days	Client Info		43803	45288	45225
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	▲ 323	▲ 339	▲ 345
Chromium	ppm	ASTM D5185m	>10	3	2	2
Nickel	ppm	ASTM D5185m	>10	2	2	3
Titanium	ppm	ASTM D5185m		1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	▲ 19	▲ 14	▲ 16
Lead	ppm	ASTM D5185m	>50	0	0	0
Copper	ppm	ASTM D5185m	>200	22	17	19
Tin	ppm	ASTM D5185m	>10	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>50	▲ 88	▲ 72	▲ 74
Potassium	ppm	ASTM D5185m	>20	20	20	16
Water		WC Method	>0.2	NEG	NEG	NEG
Particles >4µm		ASTM D7647		264627	12414	276322
Particles >6µm		ASTM D7647	>5000	▲ 207918	▲ 6763	▲ 178029
Particles >14µm		ASTM D7647	>640	▲ 18156	▲ 1151	▲ 1387
Particles >21µm		ASTM D7647	>160	▲ 781	▲ 388	29
Particles >38µm		ASTM D7647	>40	8	▲ 60	0
Particles >71µm		ASTM D7647	>10	0	6	0
Oil Cleanliness		ISO 4406 (c)	>19/16	▲ 25/21	▲ 20/17	▲ 25/18
Silt	scalar	*Visual	NONE	MODER	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	>0.2	NEG	NEG	0.2%
Sodium	ppm	ASTM D5185m		280	379	166
Boron	ppm	ASTM D5185m		30	30	32
Barium	ppm	ASTM D5185m		76	30	28
Molybdenum	ppm	ASTM D5185m		39	44	118
Manganese	ppm	ASTM D5185m		3	2	3
Magnesium	ppm	ASTM D5185m		57	49	56
Calcium	ppm	ASTM D5185m		159	133	175
Phosphorus	ppm	ASTM D5185m		235	238	229
Zinc	ppm	ASTM D5185m		43	26	61
Sulfur	ppm	ASTM D5185m		7538	7606	6911
Acid Number (AN)	mg KOH/g	ASTM D8045		0.41	0.41	0.47
Visc @ 40°C	cSt	ASTM D445		415	417	389



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0014009 **Received** : 07 Feb 2024
Lab Number : 06083054 **Tested** : 08 Feb 2024
Unique Number : 10870499 **Diagnosed** : 09 Feb 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)