



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CAIRO (S/N 2080)
Component
Starboard Reduction Gear
Fluid
SCHAEFFER 209 MOLY UNIVERSAL GEARLUBE ISO 220 (150 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0062585	MW0062431	MW0062461
Sample Date		Client Info		11 Apr 2024	26 Mar 2024	04 Mar 2024
Machine Age	hrs	Client Info		51189	50773	50306
Oil Age	hrs	Client Info		51189	50773	50306
Filter Age	hrs	Client Info		51189	50773	50306
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Not Changed	Not Changed	Not Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	58	52	57
Chromium	ppm	ASTM D5185m	>10	2	2	1
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	5	3	4
Lead	ppm	ASTM D5185m	>100	<1	0	0
Copper	ppm	ASTM D5185m	>50	8	8	10
Tin	ppm	ASTM D5185m	>10	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

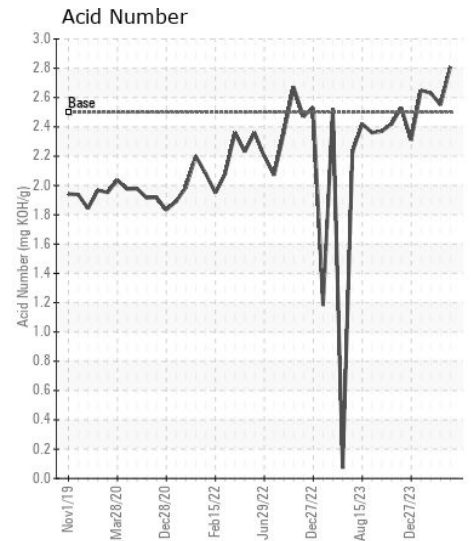
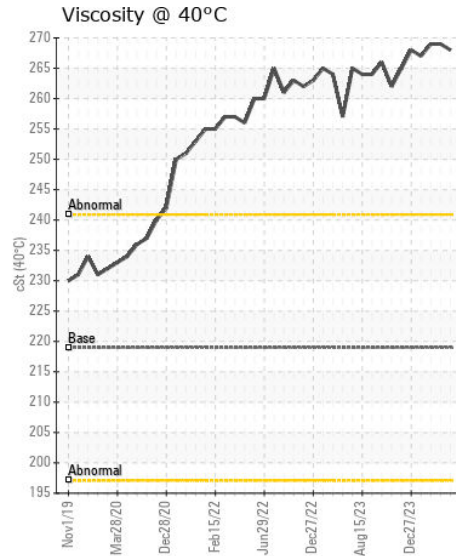
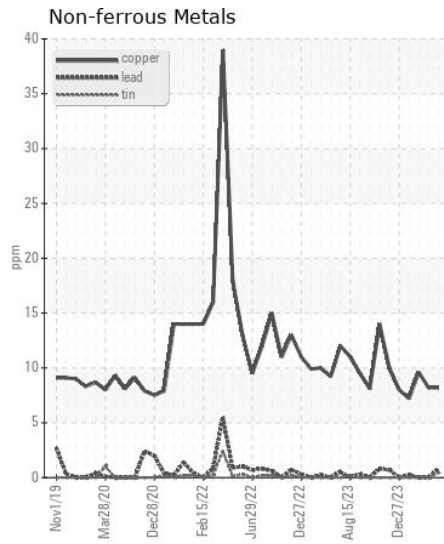
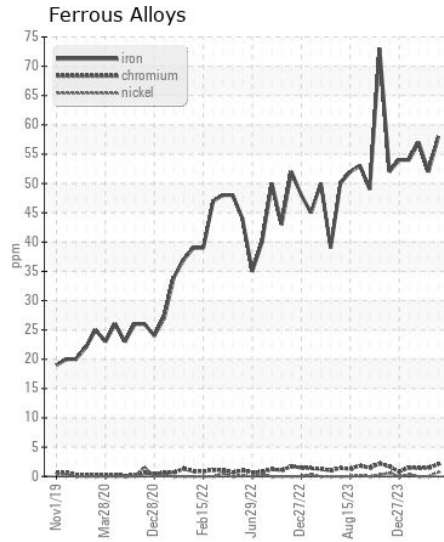
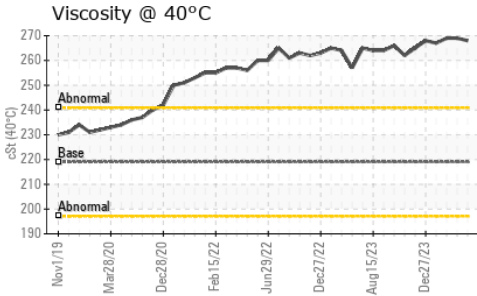
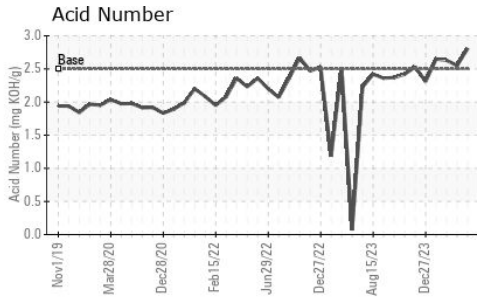
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	9	7	10
Potassium	ppm	ASTM D5185m	>20	3	1	4
Water		WC Method	>0.1	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	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	>0.1	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		14	12	11
Boron	ppm	ASTM D5185m	65	16	17	16
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m	325	195	181	202
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		5	1	4
Calcium	ppm	ASTM D5185m		101	123	92
Phosphorus	ppm	ASTM D5185m	875	949	849	882
Zinc	ppm	ASTM D5185m		84	74	80
Sulfur	ppm	ASTM D5185m	16000	17257	17350	17995
Acid Number (AN)	mg KOH/g	ASTM D8045	2.5	2.81	2.55	2.63
Visc @ 40°C	cSt	ASTM D445	219	268	269	269



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0062585
Lab Number : 06159296
Unique Number : 10994719
Test Package : MAR 2

Received : 24 Apr 2024
Tested : 25 Apr 2024
Diagnosed : 26 Apr 2024 - Don Baldrige

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
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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)

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