



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
JOSEPH HAMILTON (S/N 7-474693-1)
Component
Starboard Reduction Gear
Fluid
CHEVRON GEAR COMPOUND EP 220 (90 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0019850	MW0019852	MW0019854
Sample Date		Client Info		30 Apr 2024	01 Mar 2024	01 Jan 2024
Machine Age	hrs	Client Info		40574	39170	37731
Oil Age	hrs	Client Info		40574	39170	37731
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Filter Changed		Client Info		None	None	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	34	24	23
Chromium	ppm	ASTM D5185m	>10	1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>25	4	2	2
Lead	ppm	ASTM D5185m	>100	1	<1	0
Copper	ppm	ASTM D5185m	>50	7	6	5
Tin	ppm	ASTM D5185m	>10	1	<1	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

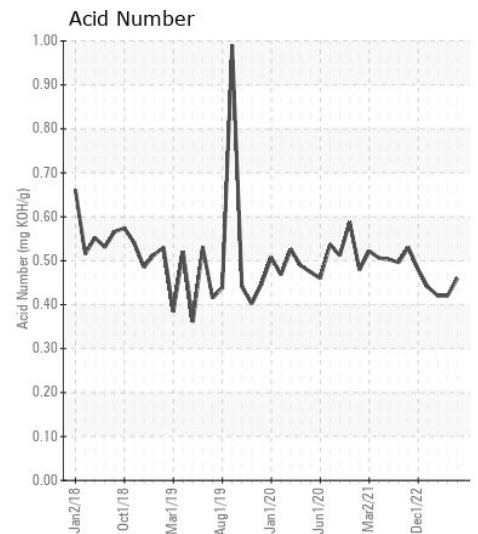
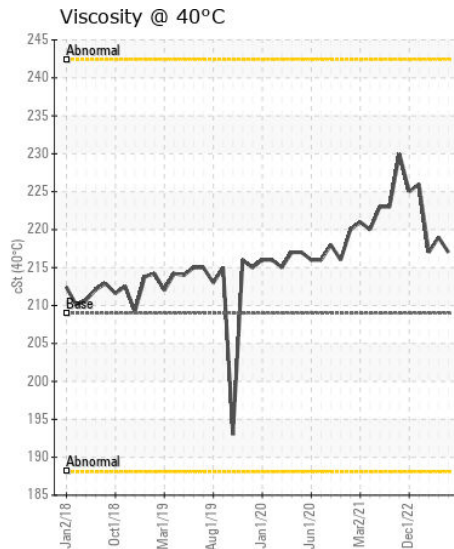
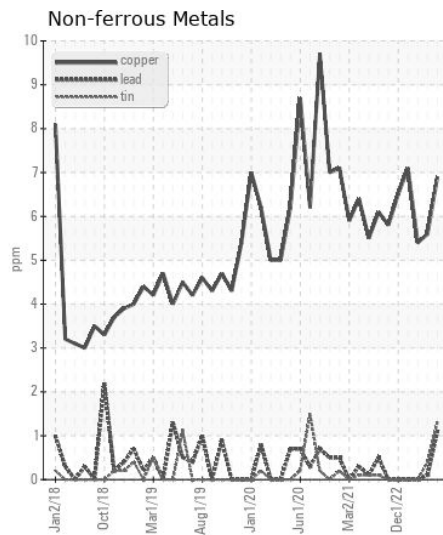
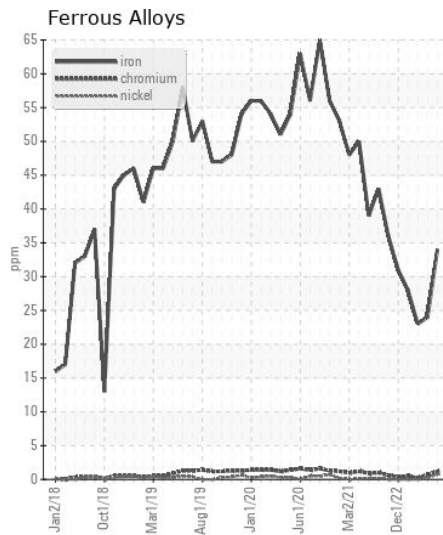
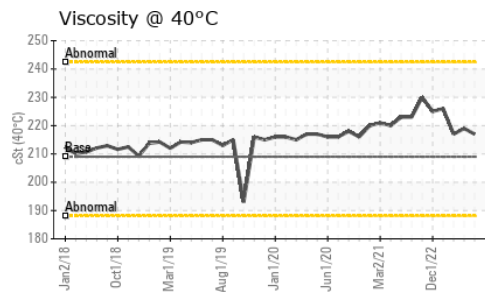
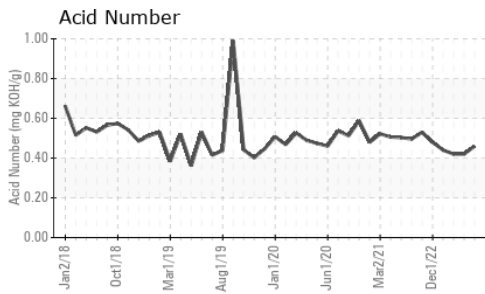
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	3	8	2
Potassium	ppm	ASTM D5185m	>20	3	2	2
Water		WC Method	>0.1	NEG	NEG	NEG
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

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		6	1	0
Boron	ppm	ASTM D5185m		2	15	16
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		2	3	3
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		6	19	18
Calcium	ppm	ASTM D5185m		56	159	79
Phosphorus	ppm	ASTM D5185m		84	284	293
Zinc	ppm	ASTM D5185m		21	63	12
Sulfur	ppm	ASTM D5185m		4754	7310	7030
Acid Number (AN)	mg KOH/g	ASTM D8045		0.46	0.42	0.42
Visc @ 40°C	cSt	ASTM D445	209	217	219	217



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0019850
Lab Number : 06186362
Unique Number : 11043114
Test Package : MAR 2

Received : 21 May 2024
Tested : 22 May 2024
Diagnosed : 23 May 2024 - Sean Felton

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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