



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
PAUL F BROTZGE
Component
Starboard Reduction Gear
Fluid
CHEVRON MEROPA 220 (220 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0066419	MW0066431	MW0055964
Sample Date		Client Info		02 Mar 2024	01 Feb 2024	04 Jan 2024
Machine Age	hrs	Client Info		62145	61429	60760
Oil Age	hrs	Client Info		62145	61429	60760
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		None	None	None
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	41	40	34
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	3	3	2
Lead	ppm	ASTM D5185m	>100	0	1	<1
Copper	ppm	ASTM D5185m	>50	5	5	4
Tin	ppm	ASTM D5185m	>10	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

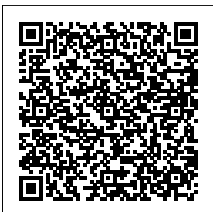
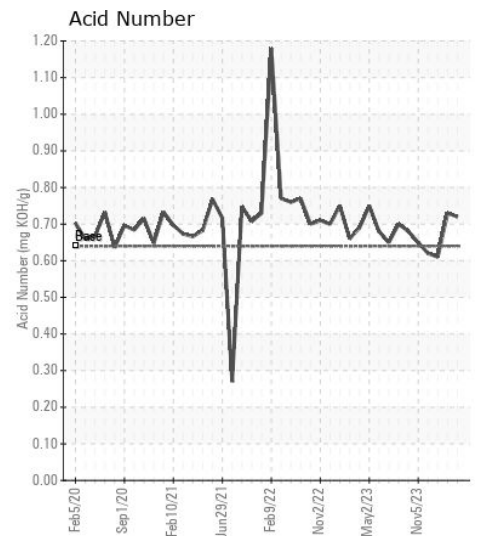
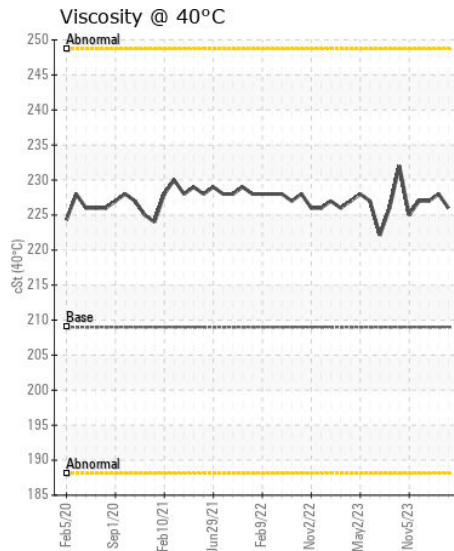
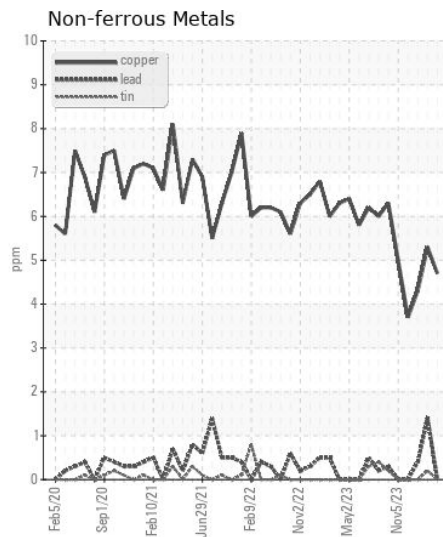
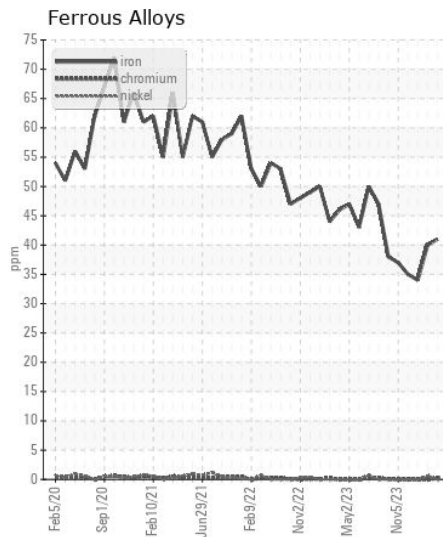
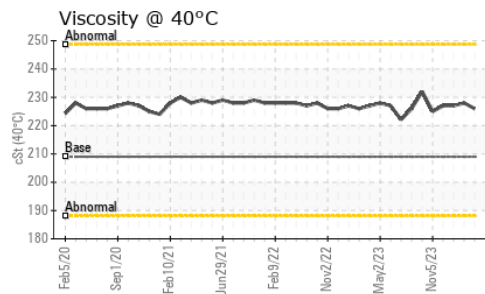
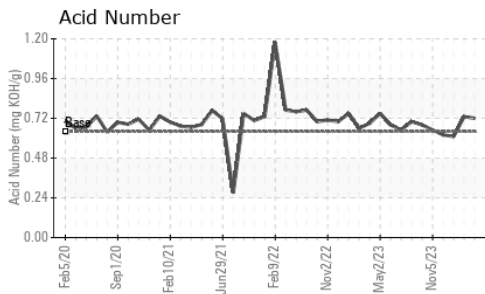
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	4	5	4
Potassium	ppm	ASTM D5185m	>20	2	6	4
Water		WC Method	>0.1	NEG	NEG	NEG
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	LIGHT	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		7	7	5
Boron	ppm	ASTM D5185m	40	6	6	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		3	0	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		3	2	0
Calcium	ppm	ASTM D5185m		19	20	12
Phosphorus	ppm	ASTM D5185m	270	261	252	213
Zinc	ppm	ASTM D5185m		<1	4	7
Sulfur	ppm	ASTM D5185m	8600	6279	5415	4993
Acid Number (AN)	mg KOH/g	ASTM D8045	0.64	0.72	0.73	0.61
Visc @ 40°C	cSt	ASTM D445	209	226	228	227



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0066419
Lab Number : 06123233
Unique Number : 10937384
Test Package : MAR 2

Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 20 Mar 2024 - Wes Davis

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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