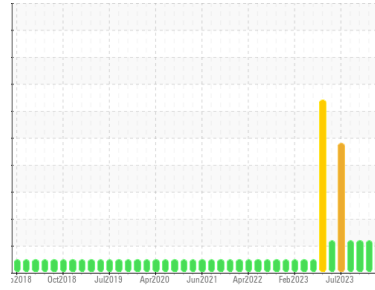




OIL ANALYSIS REPORT

Sample Rating Trend



COOLANT



Area
ROBIN B INGRAM
 Machine Id
[ROBIN B INGRAM] 003 617985-3
 Component
Starboard Main Engine
 Fluid
CHEVRON DELO 710 LE (250 GAL)

DIAGNOSIS

▲ Recommendation

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

Wear

All component wear rates are normal.

Contamination

The high sodium (Na) level indicates the possible presence of salt water.

▲ Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			MW06055527	MW06036230	MW06036234
Sample Date	Client Info			01 Dec 2023	01 Oct 2023	01 Sep 2023
Machine Age	hrs	Client Info		62568	61281	60556
Oil Age	hrs	Client Info		62568	61281	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				ATTENTION	ATTENTION	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>4.0		<1.0	<1.0	<1.0
Water	WC Method	>0.1		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	16	16	16
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	2
Lead	ppm	ASTM D5185m	>18	9	14	15
Copper	ppm	ASTM D5185m	>80	19	20	21
Tin	ppm	ASTM D5185m	>14	3	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		42	46	56
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		41	44	47
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		43	66	94
Calcium	ppm	ASTM D5185m		3183	3256	3290
Phosphorus	ppm	ASTM D5185m		5	10	17
Zinc	ppm	ASTM D5185m	10	0	7	18
Sulfur	ppm	ASTM D5185m		2251	2388	2410

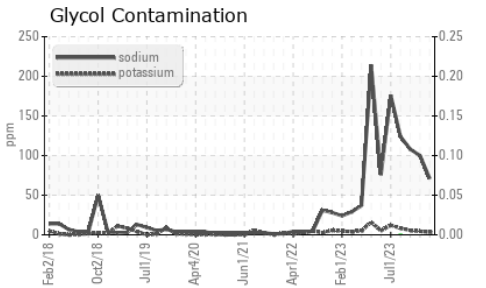
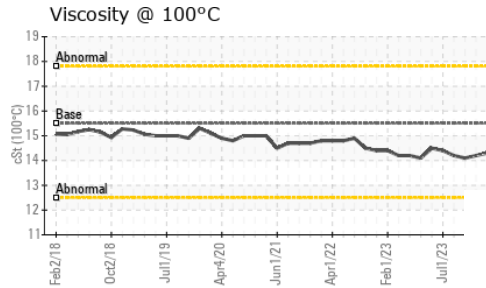
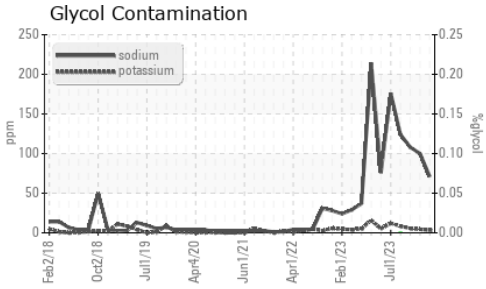
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	10	13	14
Sodium	ppm	ASTM D5185m	>75	▲ 71	▲ 100	▲ 108
Potassium	ppm	ASTM D5185m	>20	3	4	6
Glycol	%	*ASTM D2982		NEG	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.2	1.1	1
Nitration	Abs/cm	*ASTM D7624	>20	8.0	7.5	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.3	16.7	16.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	7.6	7.0	6.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	9.14	9.42	9.21



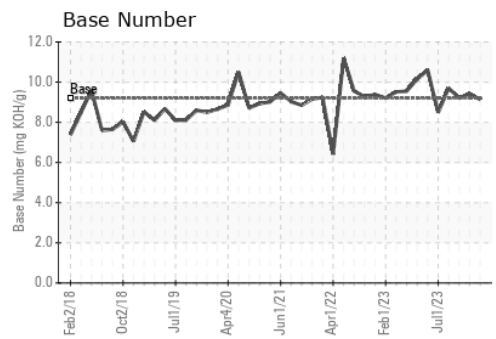
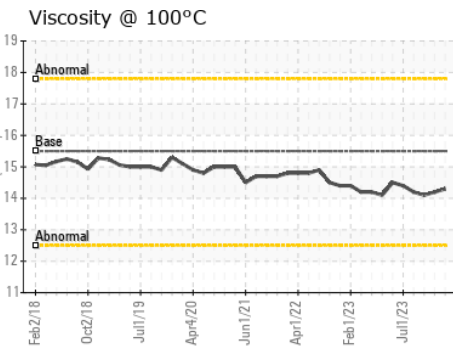
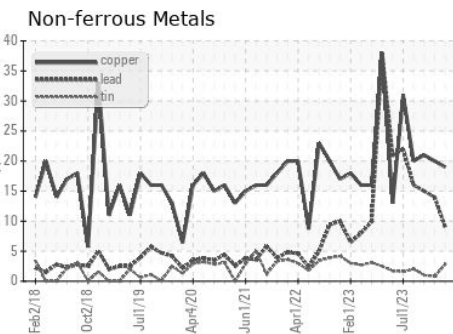
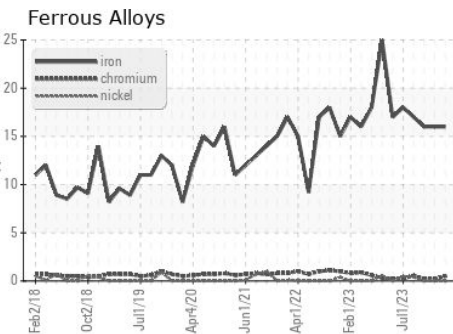
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.5	14.3	14.2	14.1

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0605527 **Received** : 09 Jan 2024
Lab Number : **0605527** **Diagnosed** : 10 Jan 2024
Unique Number : 10821476 **Diagnostician** : Don Baldrige
Test Package : MAR 2 (Additional Tests: Glycol)

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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