



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
CHIP LACEY
Machine Id
[CHIP LACEY] 003 529830-3
Component
Starboard Main Engine
Fluid
CHEVRON DELO 710 LS (300 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW06089605	MW0009324	MW0013159
Sample Date		Client Info		01 Feb 2024	01 Nov 2022	01 Aug 2021
Machine Age	hrs	Client Info		18876	17674	16593
Oil Age	hrs	Client Info		900	17674	16593
Filter Age	hrs	Client Info		0	613	400
Oil Changed		Client Info		N/A	N/A	Not Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	9	7	27
Chromium	ppm	ASTM D5185m	>8	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>3	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	1	1	2
Lead	ppm	ASTM D5185m	>18	3	3	18
Copper	ppm	ASTM D5185m	>80	11	7	30
Tin	ppm	ASTM D5185m	>14	2	2	6
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

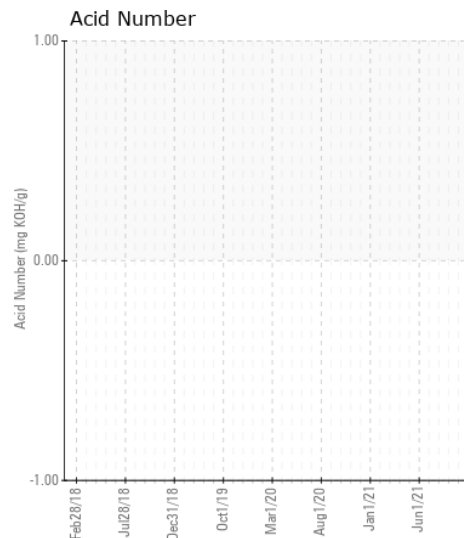
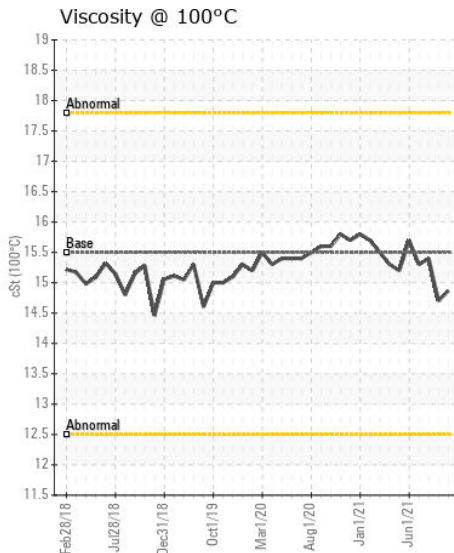
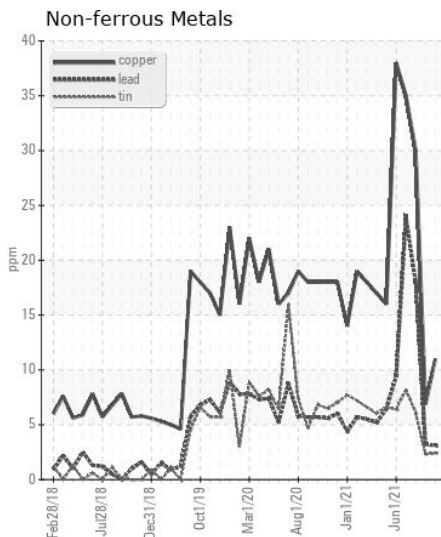
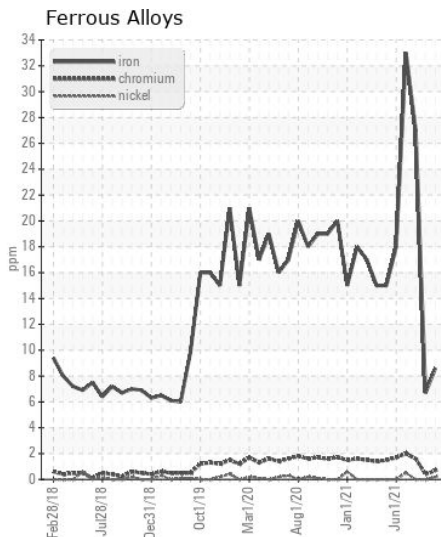
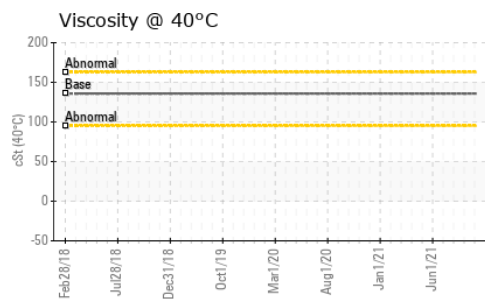
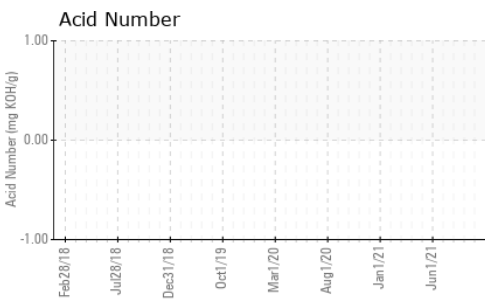
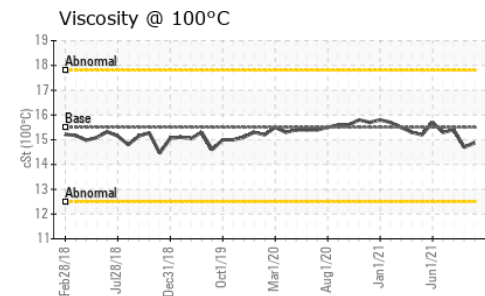
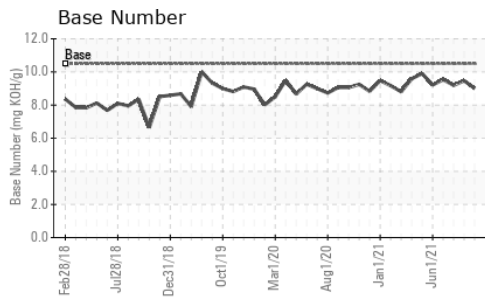
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	4	13
Potassium	ppm	ASTM D5185m	>20	6	2	47
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.4	1.6
Nitration	Abs/cm	*ASTM D7624	>20	6.3	6.8	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.7	15.5	19.3
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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	10	7	90
Boron	ppm	ASTM D5185m		34	41	43
Barium	ppm	ASTM D5185m		5	0	0
Molybdenum	ppm	ASTM D5185m		36	42	46
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		12	14	14
Calcium	ppm	ASTM D5185m		2498	3398	3524
Phosphorus	ppm	ASTM D5185m		50	6	5
Zinc	ppm	ASTM D5185m		13	3	10
Sulfur	ppm	ASTM D5185m		2005	2436	2078
Oxidation	Abs/.1mm	*ASTM D7414	>25	6.9	7	8.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	9.01	9.47	9.19
Visc @ 100°C	cSt	ASTM D445	15.5	14.87	14.7	15.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW06089605
Lab Number : 06089605
Unique Number : 10877050
Test Package : MAR 2 (Additional Tests: KV40)

Received : 14 Feb 2024
Tested : 19 Feb 2024
Diagnosed : 19 Feb 2024 - Doug Bogart

INGRAM BARGE
 900 S 3RD ST
 PADUCAH, KY
 US 42003

Contact: ANTHONY VAN CURA
 anthony.vancura@ingrambarga.com

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)

T: (270)415-4467
 F: (615)695-3697