



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CAPT MICHAEL D COLLINS (S/N 9RC00100)

Component
Port Main Engine

Fluid
CHEVRON DELO 400 XLE 15W40 (280 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0050058	MW0050355	MW0050215
Sample Date		Client Info		22 Jan 2024	22 Dec 2023	20 Oct 2023
Machine Age	hrs	Client Info		27706	26806	25563
Oil Age	hrs	Client Info		1288	378	748
Filter Age	hrs	Client Info		459	378	748
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	5	4	3
Chromium	ppm	ASTM D5185m	>8	<1	0	0
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	13	14	13
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	<1	2
Lead	ppm	ASTM D5185m	>18	0	0	1
Copper	ppm	ASTM D5185m	>80	0	0	0
Tin	ppm	ASTM D5185m	>14	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

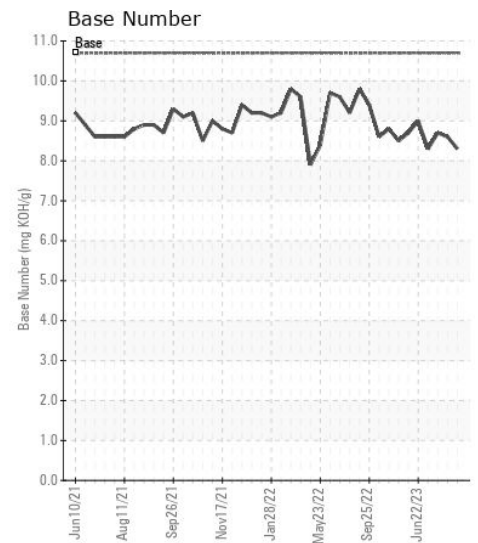
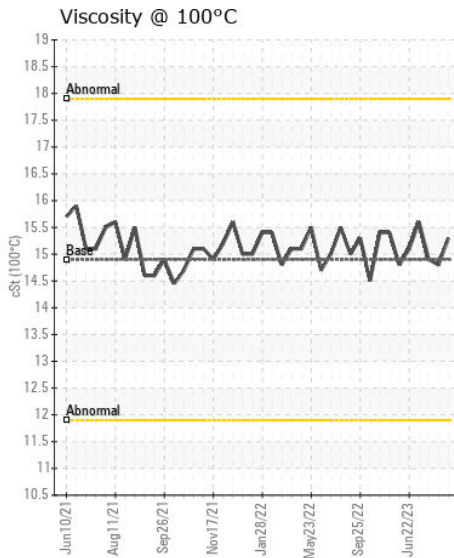
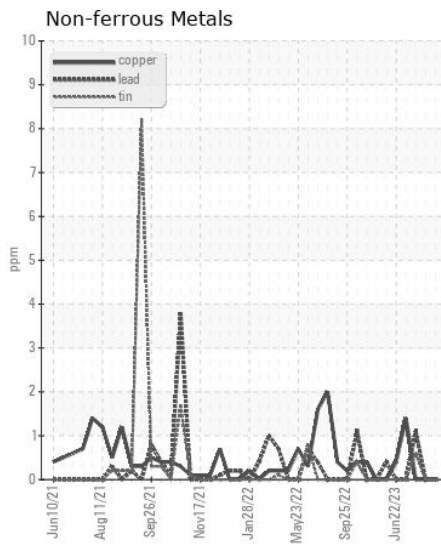
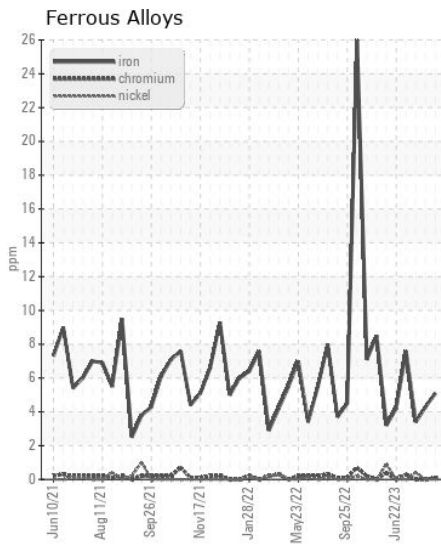
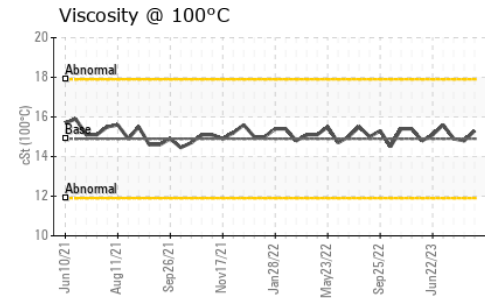
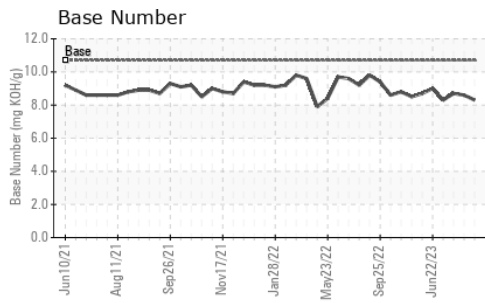
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	5	5	4
Potassium	ppm	ASTM D5185m	>20	3	3	3
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		1	0.4	0.7
Nitration	Abs/cm	*ASTM D7624	>20	9.1	7.5	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	18.5	18.9
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	57	25	14
Boron	ppm	ASTM D5185m		74	91	90
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		24	31	28
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		621	772	759
Calcium	ppm	ASTM D5185m		1244	1591	1494
Phosphorus	ppm	ASTM D5185m	760	559	736	696
Zinc	ppm	ASTM D5185m	830	708	868	880
Sulfur	ppm	ASTM D5185m	2770	2316	3283	3251
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.0	12.6	12.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	8.3	8.6	8.7
Visc @ 100°C	cSt	ASTM D445	14.9	15.3	14.8	14.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0050058
Lab Number : 06084618
Unique Number : 10872063
Test Package : MAR 2

Received : 09 Feb 2024
Tested : 12 Feb 2024
Diagnosed : 12 Feb 2024 - Sean Felton

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
 ronald.schneider@bargeacbl.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:
 F: (812)288-1644