MAR II

WEAR CHECK Inland Marine Oil Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
FRANK JOHNSON
Machine Id
[FRANK JOHNSON] 007 298198-7
Component
Port Genset
Fluid
CHEVRON DELO 400 XLE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

WEAR

All component wear rates are normal.

CONTAMINATION

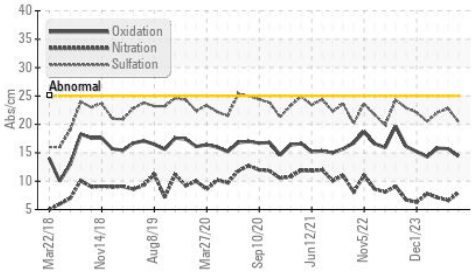
There is no indication of any contamination in the oil.

FLUID CONDITION

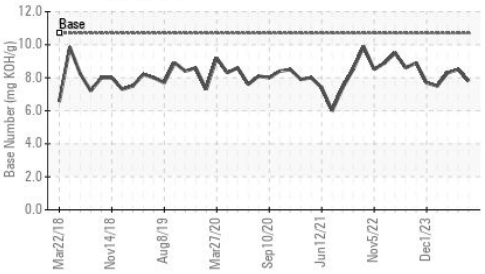
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0066217	MW0066225	MW0058594
Sample Date		Client Info		18 Mar 2024	31 Jan 2024	14 Jan 2024
Machine Age	hrs	Client Info		2001	1463	1259
Oil Age	hrs	Client Info		238	207	213
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>50	5	7	6
Chromium	ppm	ASTM D5185m	>4	<1	<1	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		8	1	2
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	4	2
Lead	ppm	ASTM D5185m	>17	<1	<1	<1
Copper	ppm	ASTM D5185m	>70	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	4	7	6
Potassium	ppm	ASTM D5185m	>20	18	3	<1
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		0.4	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	8.0	6.6	7.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.4	22.8	22.1
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
Sodium	ppm	ASTM D5185m		4	0	1
Boron	ppm	ASTM D5185m		154	347	251
Barium	ppm	ASTM D5185m		0	2	0
Molybdenum	ppm	ASTM D5185m		71	127	111
Manganese	ppm	ASTM D5185m		2	2	1
Magnesium	ppm	ASTM D5185m		649	633	724
Calcium	ppm	ASTM D5185m		1595	1767	1693
Phosphorus	ppm	ASTM D5185m	760	719	786	794
Zinc	ppm	ASTM D5185m	830	802	897	928
Sulfur	ppm	ASTM D5185m	2770	3303	3155	3442
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	15.7	15.8
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.8	8.5	8.3
Visc @ 100°C	cSt	ASTM D445	14.9	13.5	13.4	13.6

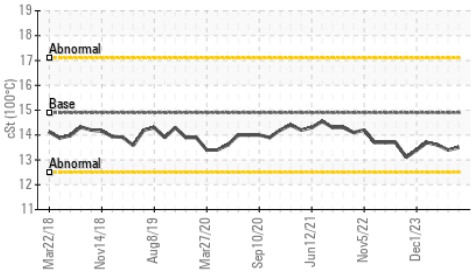
FT-IR (Direct Trend)



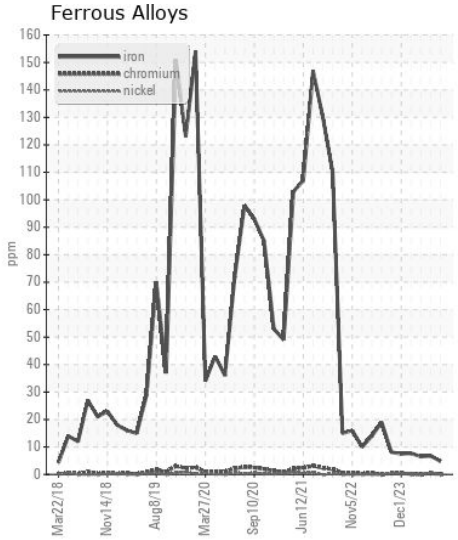
Base Number



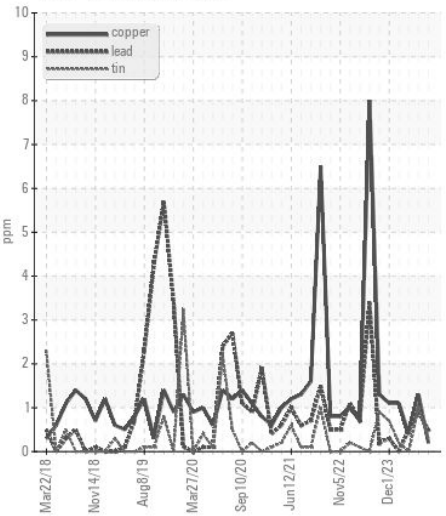
Viscosity @ 100°C



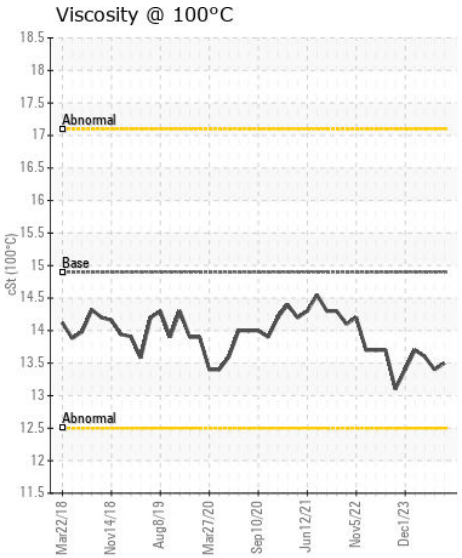
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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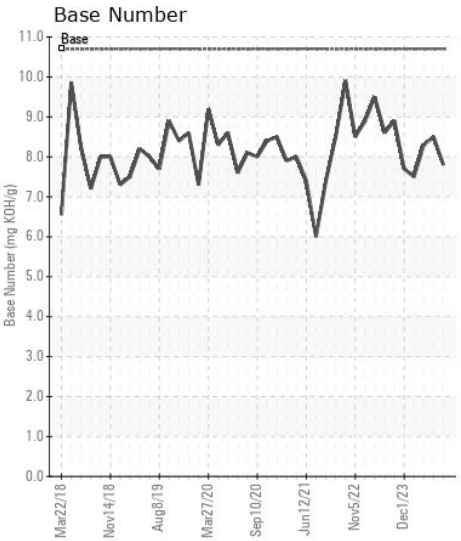

Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: MW0066217	**Received**	: 16 Apr 2024
Lab Number	: 06150929	**Tested**	: 17 Apr 2024
Unique Number	: 10981007	**Diagnosed**	: 17 Apr 2024 - Wes Davis
Test Package	: MAR 2		

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)

INGRAM BARGE
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: GLENN ELLIS
glen.ellis@ingrambarge.com
T: (270)415-4467
F: (615)695-3697