



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
VIRGINIA INGRAM
Machine Id
[VIRGINIA INGRAM] 008 661437-8
Component
Starboard Genset
Fluid
CHEVRON DELO 400 LE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0068866	MW0066184	MW0046652
Sample Date		Client Info		14 May 2024	15 Apr 2024	28 Mar 2024
Machine Age	hrs	Client Info		5021	4643	4235
Oil Age	hrs	Client Info		380	408	220
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

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	2	9	7
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>5	0	<1	0
Aluminum	ppm	ASTM D5185m	>12	3	4	5
Lead	ppm	ASTM D5185m	>17	0	<1	<1
Copper	ppm	ASTM D5185m	>70	4	6	3
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<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.

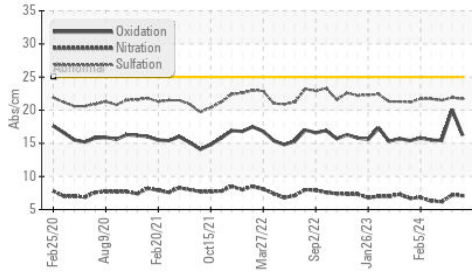
Silicon	ppm	ASTM D5185m	>25	4	6	6
Potassium	ppm	ASTM D5185m	>20	0	3	1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	7.1	7.2	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	21.9	21.5
Silt	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

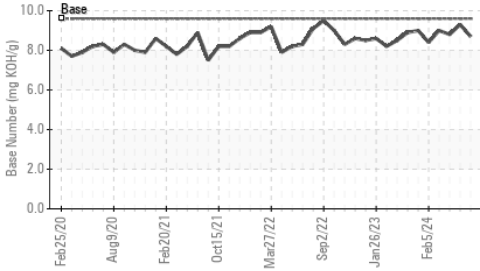
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	2	2
Boron	ppm	ASTM D5185m		358	346	367
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		107	112	107
Manganese	ppm	ASTM D5185m		3	2	2
Magnesium	ppm	ASTM D5185m		594	557	581
Calcium	ppm	ASTM D5185m		1668	1652	1657
Phosphorus	ppm	ASTM D5185m	1200	746	779	816
Zinc	ppm	ASTM D5185m	1300	860	857	897
Sulfur	ppm	ASTM D5185m	3200	3243	2887	3244
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.2	20.1	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	8.7	9.3	8.8
Visc @ 100°C	cSt	ASTM D445	15.7	12.3	12.3	12.6

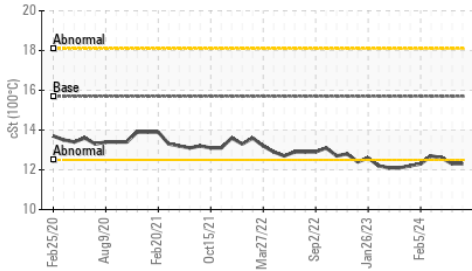
FT-IR (Direct Trend)



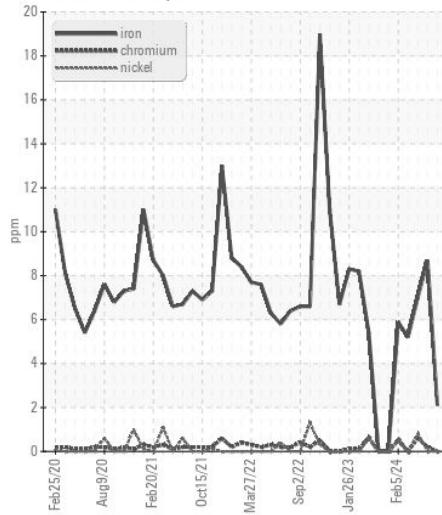
Base Number



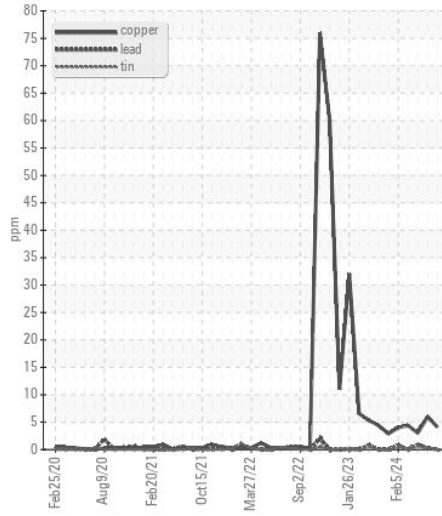
Viscosity @ 100°C



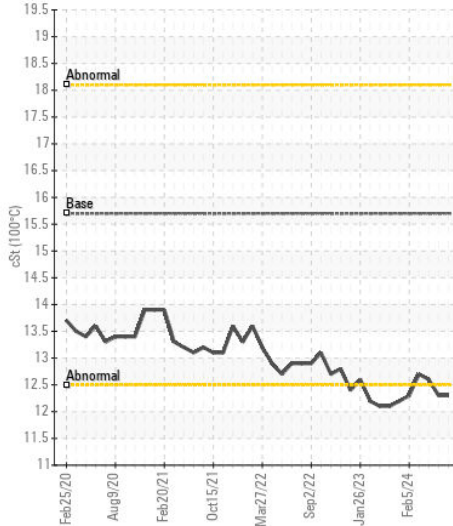
Ferrous Alloys



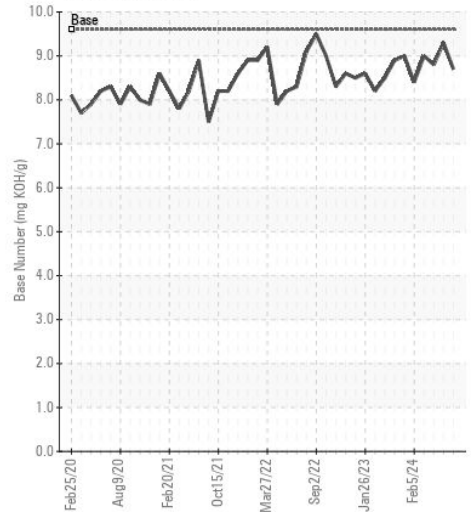
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0068866
Lab Number : 06188566
Unique Number : 11045318
Test Package : MAR 2
Received : 22 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Wes Davis

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

Contact: JEFF BISHOP
 jeff.bishop@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)

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