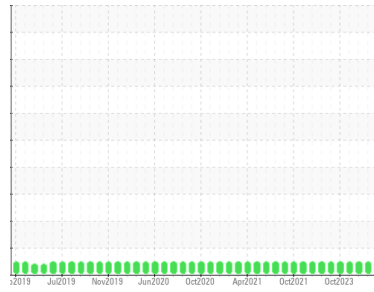




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
CEN
 Machine Id
CEN
 Component
Starboard Genset
 Fluid
CHEVRON DELO 710 LS (7 GAL)

DIAGNOSIS

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			MW0060733	MW0060735	MW0060726
Sample Date	Client Info			16 Jun 2024	08 Feb 2024	08 Jan 2024
Machine Age	hrs	Client Info		13982	13834	13556
Oil Age	hrs	Client Info		166	292	300
Oil Changed	Client Info			Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL

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
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	4	4	6
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>12	2	2	2
Lead	ppm	ASTM D5185m	>17	<1	<1	<1
Copper	ppm	ASTM D5185m	>70	1	0	0
Tin	ppm	ASTM D5185m	>15	0	0	0
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		48	35	40
Barium	ppm	ASTM D5185m		0	0	2
Molybdenum	ppm	ASTM D5185m		46	47	48
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		21	13	6
Calcium	ppm	ASTM D5185m		3610	3330	3211
Phosphorus	ppm	ASTM D5185m		10	4	39
Zinc	ppm	ASTM D5185m		12	3	0
Sulfur	ppm	ASTM D5185m		2607	1967	2146

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	3	2	2
Sodium	ppm	ASTM D5185m		4	0	0
Potassium	ppm	ASTM D5185m	>20	5	0	1

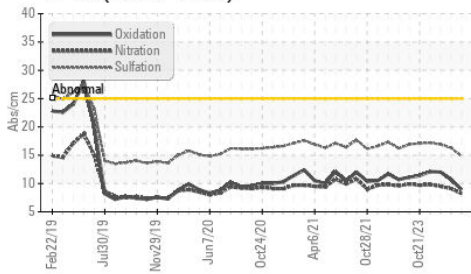
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.2	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	8.2	9.1	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.8	16.3	16.9

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.9	10.7	12.0
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	6.8	6.4	6.4

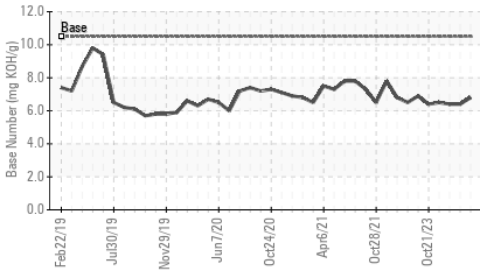


OIL ANALYSIS REPORT

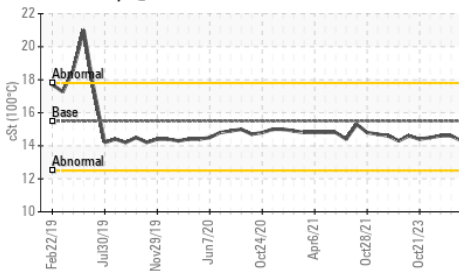
FT-IR (Direct Trend)



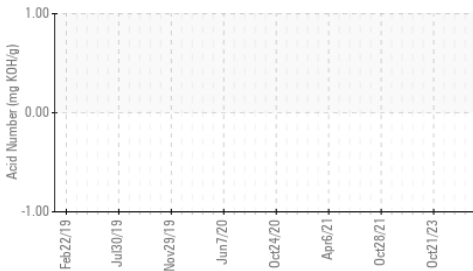
Base Number



Viscosity @ 100°C



Acid Number

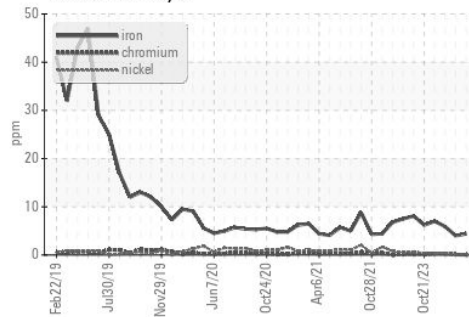


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

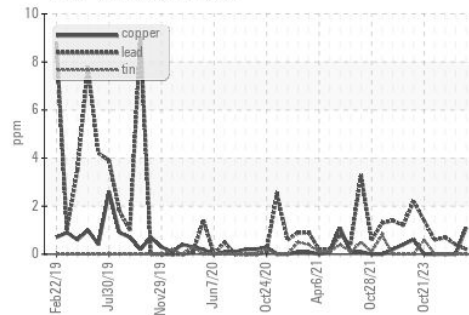
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.5	14.3	14.6

GRAPHS

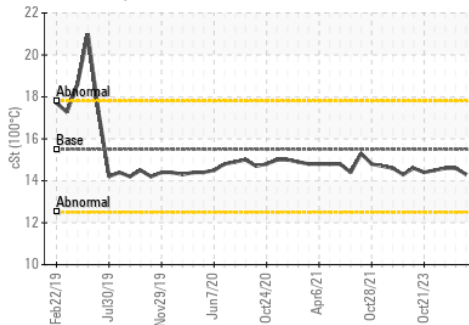
Ferrous Alloys



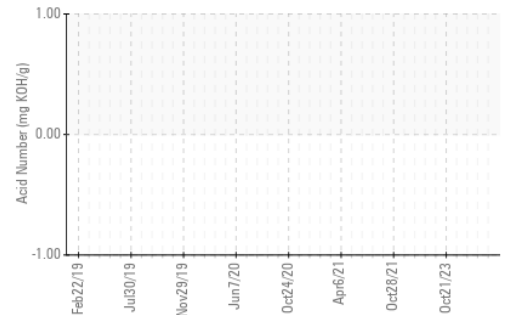
Non-ferrous Metals



Viscosity @ 100°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0060733

Lab Number : 06211341

Unique Number : 11084205

Test Package : MAR 2 (Additional Tests: TAN Man)

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)

Received : 17 Jun 2024

Tested : 19 Jun 2024

Diagnosed : 19 Jun 2024 - Don Baldrige

AMERICAN RIVER TRANSPORTATION CO.

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US 63111

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