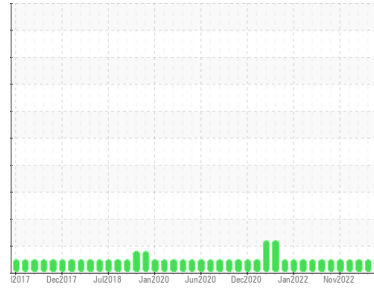




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
JERRY A TINKEY
 Machine Id
[JERRY A TINKEY] 003 516506-3
 Component
Starboard Main Engine
 Fluid
CHEVRON DELO 710 LE (--- 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			MW0063296	MW0046602	MW0026952
Sample Date	Client Info			01 Dec 2023	01 Oct 2023	01 Apr 2023
Machine Age	hrs	Client Info		71739	71635	71046
Oil Age	hrs	Client Info		71739	71635	71046
Oil Changed	Client Info			Not Changed	Not Changed	Not 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	>75	9	8	11
Chromium	ppm	ASTM D5185m	>8	1	1	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>3	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	<1	2	2
Lead	ppm	ASTM D5185m	>18	4	4	2
Copper	ppm	ASTM D5185m	>80	14	16	16
Tin	ppm	ASTM D5185m	>14	2	2	2
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		42	43	48
Barium	ppm	ASTM D5185m		0	9	0
Molybdenum	ppm	ASTM D5185m		48	50	51
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m		18	15	20
Calcium	ppm	ASTM D5185m		3400	3313	3628
Phosphorus	ppm	ASTM D5185m		8	35	10
Zinc	ppm	ASTM D5185m	10	8	6	8
Sulfur	ppm	ASTM D5185m		2224	2998	2735

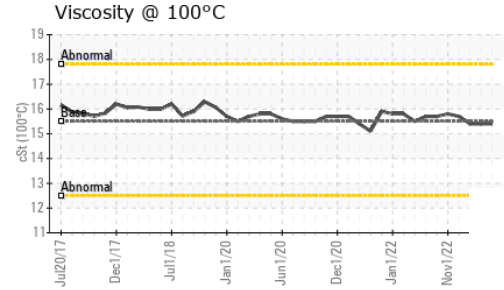
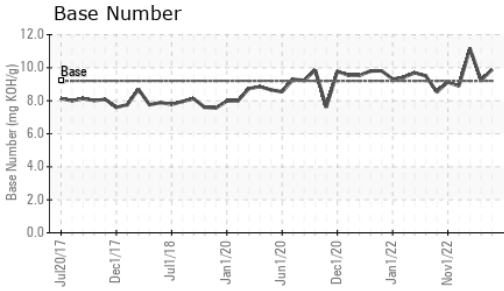
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	5	4	4
Sodium	ppm	ASTM D5185m	>75	20	20	18
Potassium	ppm	ASTM D5185m	>20	0	4	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	2	2	2
Nitration	Abs/cm	*ASTM D7624	>20	8.9	9.2	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.4	18.3	17.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	8.0	8.1	7.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	9.89	9.23	11.17



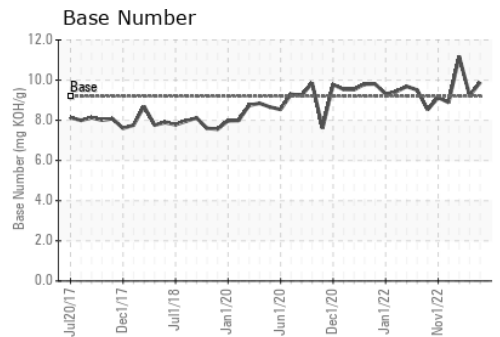
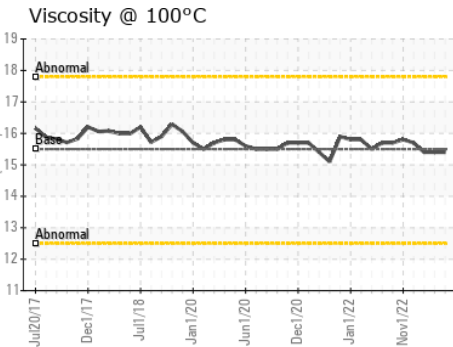
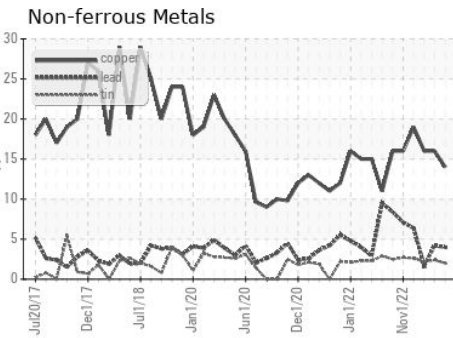
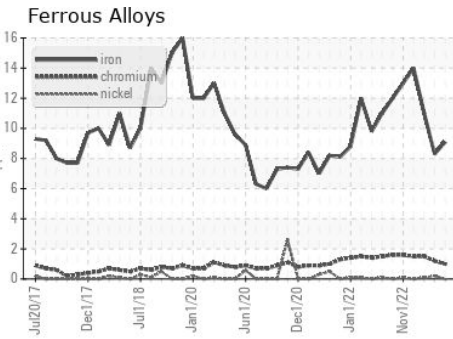
OIL ANALYSIS REPORT



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	15.4	15.4	15.4

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0063296 **Received** : 07 Dec 2023
Lab Number : **06028813** **Diagnosed** : 09 Dec 2023
Unique Number : 10778604 **Diagnostician** : Wes Davis
Test Package : MAR 2

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

Contact: ZACH BURKHART
 zachary.burkhart@ingrambargo.com

T:
 F: (615)695-3697

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)