



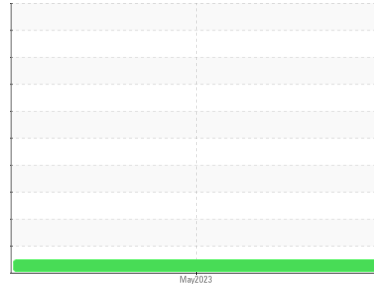
# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Machine Id  
**SHD 004**  
 Component  
**Main Hydraulic System**  
 Fluid  
**SHELL TELLUS 32 (10 GAL)**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

### Wear

All component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC0812921</b>	---	---
Sample Date	Client Info		<b>22 May 2023</b>	---	---
Machine Age	hrs	Client Info	<b>0</b>	---	---
Oil Age	hrs	Client Info	<b>62</b>	---	---
Oil Changed	Client Info		<b>Changed</b>	---	---
Sample Status			<b>NORMAL</b>	---	---

## CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.1	<b>NEG</b>	---	---

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Chromium	ppm	ASTM D5185m >10	<b>0</b>	---	---
Nickel	ppm	ASTM D5185m >10	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m	<b>0</b>	---	---
Silver	ppm	ASTM D5185m	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m >10	<b>0</b>	---	---
Lead	ppm	ASTM D5185m >10	<b>0</b>	---	---
Copper	ppm	ASTM D5185m >75	<b>&lt;1</b>	---	---
Tin	ppm	ASTM D5185m >10	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m	<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m	<b>0</b>	---	---

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>0</b>	---	---
Barium	ppm	ASTM D5185m	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	<b>0</b>	---	---
Manganese	ppm	ASTM D5185m	<b>0</b>	---	---
Magnesium	ppm	ASTM D5185m 11	<b>65</b>	---	---
Calcium	ppm	ASTM D5185m 35	<b>51</b>	---	---
Phosphorus	ppm	ASTM D5185m 259	<b>289</b>	---	---
Zinc	ppm	ASTM D5185m 277	<b>367</b>	---	---
Sulfur	ppm	ASTM D5185m 1865	<b>809</b>	---	---

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---
Sodium	ppm	ASTM D5185m	<b>0</b>	---	---
Potassium	ppm	ASTM D5185m >20	<b>&lt;1</b>	---	---

## FLUID CLEANLINESS

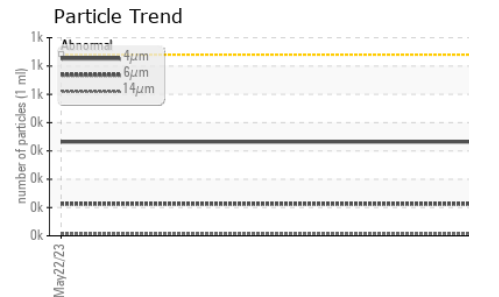
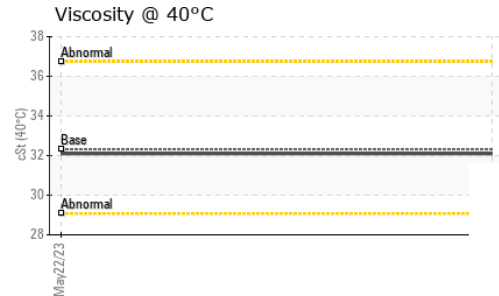
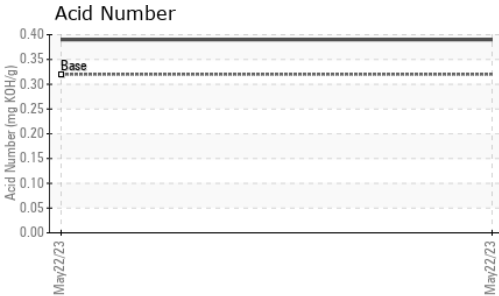
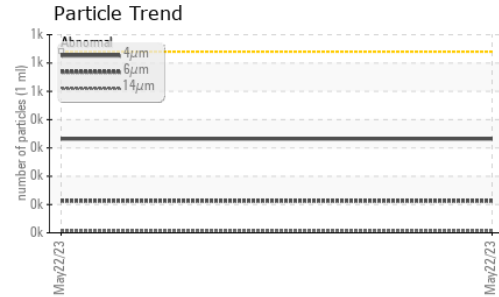
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>640	<b>332</b>	---	---
Particles >6µm	ASTM D7647	>160	<b>113</b>	---	---
Particles >14µm	ASTM D7647	>20	<b>7</b>	---	---
Particles >21µm	ASTM D7647	>4	<b>2</b>	---	---
Particles >38µm	ASTM D7647	>3	<b>0</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>16/14/11	<b>16/14/10</b>	---	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.32	<b>0.39</b>	---	---



# OIL ANALYSIS REPORT



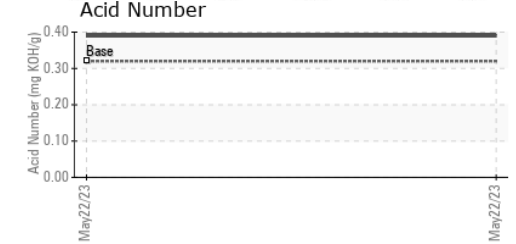
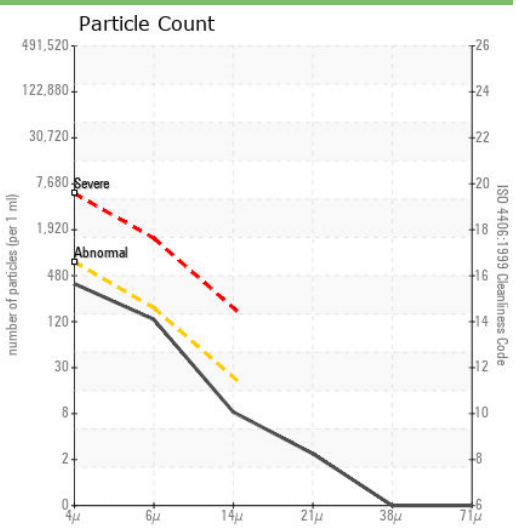
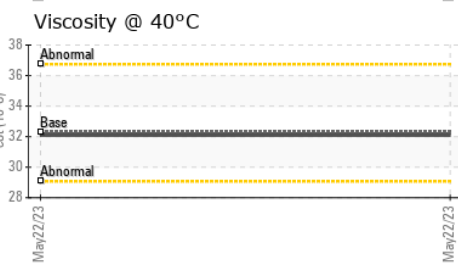
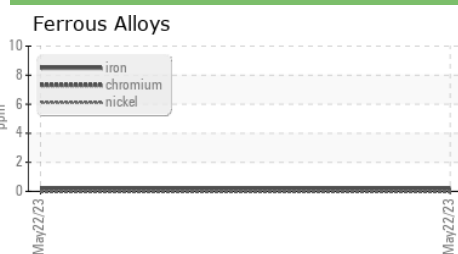
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.1	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32.32	<b>32.1</b>	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color		no image	no image
Bottom		no image	no image

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0812921 **Received** : 23 May 2023  
**Lab Number** : 05854368 **Diagnosed** : 24 May 2023  
**Unique Number** : 10483723 **Diagnostician** : Wes Davis  
**Test Package** : MAR 2

**GRAHAM MARINE INC**  
 5555 SANTA FE ST, STE 1  
 SAN DIEGO, CA  
 US 92109  
 Contact: SCOTT GRAHAM  
 scottg@graham-marine.com  
 T: (858)642-1901  
 F:

Certificate L2367  
 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)