

MARINE DIESEL SURVEYORS, LLC.
13294 Lakeside Ter.
Cooper City, FL 33330
(954) 252-0707
MARINEDIESELSURVEYS@GMAIL.COM

ENGINE SURVEY REPORT

ENGINE SURVEY REPORT

"CHANTICLEER"

CATERPILLAR D343 460HP

JULY 8, 2025

MR. MATTHEW CSIDEI

MARINE DIESEL SURVEYORS, LLC.

13294 Lakeside Ter.

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ENGINE SURVEY REPORT

FILE NUMBER: MDS8270VESSEL: "CHANTICLEER"

OIL SAMPLE RESULTS.....

SPECTROCHEMICAL ANALYSIS OF THE SUBMITTED SAMPLES IS AS FOLLOWS:

	PE	SE	PT	ST	P	GEN	S	GEN
LEAD	<u>2</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>0</u>		<u>0</u>	
CHROMIUM	<u>8</u>	<u>8</u>	<u>0</u>	<u>0</u>	<u>7</u>		<u>4</u>	
TIN	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>1</u>	
SILICON	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>2</u>		<u>0</u>	
IRON	<u>10</u>	<u>12</u>	<u>4</u>	<u>2</u>	<u>11</u>		<u>11</u>	
ALUMINUM	<u>9</u>	<u>7</u>	<u>4</u>	<u>2</u>	<u>3</u>		<u>2</u>	
COPPER	<u>11</u>	<u>15</u>	<u>18</u>	<u>16</u>	<u>6</u>		<u>6</u>	
NICKEL	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>	
SODIUM	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>	
SOOT	<u>.1</u>	<u>.2</u>	<u>-</u>	<u>-</u>	<u>.1</u>		<u>.1</u>	
OXIDATION	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>		<u>2</u>	
FUEL	<u>.0</u>	<u>.0</u>	<u>-</u>	<u>-</u>	<u>.0</u>		<u>.0</u>	
GLYCOL	<u>0</u>	<u>0</u>	<u>-</u>	<u>-</u>	<u>0</u>		<u>0</u>	
POTASSIUM	<u>2</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>	
WATER	<u>.0</u>	<u>.0</u>	<u>.1</u>	<u>.1</u>	<u>.0</u>		<u>.0</u>	
V40	<u>109</u>	<u>109</u>	<u>107</u>	<u>107</u>	<u>109</u>		<u>109</u>	
V100	<u>15.9</u>	<u>15.9</u>	<u>15.7</u>	<u>15.7</u>	<u>15.9</u>		<u>15.9</u>	
Vindex	<u>111</u>	<u>111</u>	<u>110</u>	<u>110</u>	<u>111</u>		<u>111</u>	

ANALYSIS OF TEST DATA: Through spectrochemical evaluation, the above results were categorized as wear metals.

Engines, transmissions and generators wear rates appear normal. Samples appear free of external contamination. Analysis "does not" guarantee proper performance of the units. Internal inspections would be needed to determine condition of internal parts (rods, pistons, liners, crankshafts and etc.).

Note:, the accurate interpretation of the chemical analysis of crankcase oil and/or transmission oil is generally possible only when samples have been taken and analyzed periodically. Only in that way can benchmarks and a usable pattern be established. Without that history, someone is just guessing as to the real significance of various oil contaminant levels. It is also important to understand that oil analysis will not predict a sudden, catastrophic failure--for example, the fracturing of a connecting rod. The reason is this type of failure is not usually the result of ongoing wear.

TEST PERFORMED BY: QLC METALLURGICAL

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TO: Mr. Matthew CsideiREQUESTED BY: SameFILE NUMBER: MDS8270DATE: July 8, 2025VESSEL: "CHANTICLEER"HULL NUMBER: Not observed**ENGINE SPECIFICATIONS:**

Engine Manufacturer
Engine Model
Engine Serial No.
Engine Hours
Transmission Manufacturer
Transmission Model
Transmission Serial No.

PORT

Caterpillar
D343TA
Tag missing
4696 Posted
Twin Disc
MG514
3N4546

STARBOARD

Caterpillar
D343TA
33B4723
4695 Posted
Twin Disc
MG514
3N4547

TRIAL RUN DATA:

Engine RPM'S
Engine Water Temp.
Engine Oil Temp.
Drive Oil Temp.
Engine Oil Pressure
Drive Oil Pressure
Fuel Pressure
Crankcase Pressure
Turbo Boost
Exhaust Temperature

2000 RPM'S
180 Degrees
212 Degrees
141 Degrees
70 PSI
220 PSI
87 PSI
250 CFPH
21 PSI
720 Degrees

2000 RPM'S
183 Degrees
213 Degrees
137 Degrees
65 PSI
220 PSI
88 PSI
260 CFPH
20 PSI
730 Degrees

COOLING SYSTEMS:

Fresh Water System
Caps
Pump
Hoses
Hose Clamps
Heat Exchanger
Raw Water System
Pump
Zincs
Hoses
Hose Clamps

Clean
Held pressure
No leaks
See note
Serviceable
Some scale
Operational
See note
Deteriorating
See note
See note

Clean
Held pressure
No leaks
See note
Serviceable
Some scale
Operational
No leaks
Deteriorating
See note
See note

ELECTRICAL:

Alarms-Ignition Test
Alternator Output

See note
Normal

See note
Normal

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ENGINE SURVEY REPORT

FILE NUMBER: MDS8270**VESSEL:** "CHANTICLEER"**FILTERS:**

Engine Oil Filters
 Primary Fuel Filters
 Secondary Fuel Filters
 Transmission Oil Filter

PORT

Serviceable
Serviceable
Serviceable
Serviceable

STARBOARD

Serviceable
Serviceable
Serviceable
Serviceable

OIL/FUEL LINES:

Turbo Oil Lines
 Engine Oil Lines
 Engine Fuel Lines
 Transmission Oil Lines

Serviceable
Serviceable
Serviceable
Serviceable

Serviceable
Serviceable
Serviceable
Serviceable

AIR SYSTEM:

Turbos
 Airseps
 Air Filters
 Aftercoolers

Operational
Serviceable
Dirty
Serviceable

Operational
Serviceable
Dirty
Serviceable

EXHAUST SYSTEM:

Hoses
 Risers
 Elbows
 Mufflers
 Manifolds
 Crossover
 Collectors
 Turbo Sweep
 Hose Clamps

Serviceable
Monitor
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable

Serviceable
Monitor
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable
Serviceable

MISCELLANEOUS:

Engine Mounts
 Engine Paint
 Vibration Dampener
 Engine Oil Level
 Engine Oil Condition
 Transmission Oil Level
 Transmission Oil Condition
 Generator Oil Level
 Generator Oil Condition

See note
Serviceable
Serviceable
Full
See oil sample
Full
See oil sample
Full
See oil sample

See note
Serviceable
Serviceable
Full
See oil sample
Full
See oil sample
Full
See oil sample

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VESSEL: "CHANTICLEER"

This is to certify that the undersigned diesel engine surveyor did, at the request of Mr. Matthew Csidei, perform an engine and generator survey to the above captioned vessel while afloat and during the trial run on July 8, 2025. Survey performed in order to ascertain the general condition for pre-purchase consideration.

All observations and conditions contained in this Diesel Evaluation were derived from "external inspections", no internal inspections were ordered or performed but are recommended. The findings are the results of facts and conditions presented before and during the trial run, with no guarantees or warranties specified or implied by Marine Diesel Surveyors, LLC., any employee, surveyor, representative or agent of the corporation.

ENGINE TYPE:

The main engines are Caterpillar D343TA high performance diesels, which are, 460hp In-line six cylinder four cycle-stroke turbocharged aftercooled diesels with fresh water cooling.

TRANSMISSION TYPE:

The transmissions are Twin Disc MG 514 gears with 3:1 ratios.

EXHAUST SYSTEMS:

The exhaust risers are manufactured of stainless steel. The exhaust elbows are manufactured of stainless steel. The exhaust mufflers are manufactured of fiberglass. Normal life (safe) expectancy for risers is five to seven years. This life expectancy would be subject to the operating conditions to which the vessel was subjected. The only positive means of attesting to the internal condition of the risers is to have them removed and pressure tested.

The exhaust hoses were inspected and appear to be in serviceable condition.

The exhaust hose clamps were inspected and appear to be in serviceable condition.

The exhaust risers were inspected externally and appear to be in serviceable condition.

The exhaust manifolds were inspected and appear to be in serviceable condition.

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VESSEL: "CHANTICLEER"

FUEL SYSTEMS:

The fuel systems consist of Racor water/fuel separators, primary filters and spin-on secondary filters. A sample of the fuel showed the fuel to contain some bacteria and sediment. The fuel lines were inspected and appear to be in serviceable condition.

AIR INTAKE SYSTEM:

The air filters were inspected and found to be in dirty condition.

FRESH WATER SYSTEMS:

The fresh water systems were pressure checked with a Stant Pressure Tester at operational pressure.

The port system showed no leaks. The starboard system showed no leaks. The fresh water caps held pressure port and starboard. The fresh water pumps showed no leakage during pressure testing port or starboard. The fresh water hoses were inspected and a few were found to be in deteriorating condition. The fresh water hose clamps appear to be in serviceable condition. The systems were clean and had antifreeze protection.

RAW WATER SYSTEMS:

The raw water systems were visually inspected before and during the trial run. The heat exchangers were inspected and no leaks were found. Intermittent raw water leakage was noted at the starboard raw water pump. The port raw water pump showed no leakage during the trial run. The raw water hoses were inspected and a few were found to be in deteriorating condition. The raw water hose clamps were inspected and a few were found to be in deteriorating condition.

ALARM SYSTEMS IGNITION TEST:

The engine alarm systems were tested. No audible alarms were noted. Engine overheat and/or low oil pressure testing of the alarm systems cannot be performed.

HOURLY METERS:

Hour meters were found to be operational during the trial run. Note:, hours posted cannot be guaranteed accurate by the undersigned engine surveyor. Internal inspections would be needed to confirm hours posted. No internal inspections were ordered or performed.

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AFTERCOOLERS:

The aftercooler cores cannot be visually inspected. However, cores were reported and appear to have been serviced recently and are in good condition.

TURBOS:

The turbos were inspected intake sides and appear to be in serviceable condition. Note:, exhaust sides of the turbos cannot be inspected. Exhaust pipes would need to be removed.

TURBO OIL LINES:

The turbo oil lines were inspected and appear to be in serviceable condition.

ENGINE OIL LINES:

The engine oil lines were inspected and appear to be in serviceable condition.

ENGINE/TRANSMISSION MOUNTS:

The engine-transmission mounts were visually inspected and found to be worn. The mounts were inspected under sea trial conditions by shifting from forward to reverse, while watching the mounts for movement (Back Down Test).

ENGINE/TRANSMISSION ALIGNMENT:

During the trial run, some engine/transmission movement and vibration was noted. Some amount of movement and vibration is considered normal.

TRANSMISSIONS:

The gear sumps were probed via magnet and found to have a slight trace of metal. A small trace of metal is considered normal. The transmission oil lines were inspected and appear to be in serviceable condition.

BLOW BY TEST:

A crankcase blow by test was performed using a Caterpillar Computerized Blow By Indicator. Port engine showed 250 CFPH and the starboard engine showed 260 CFPH. This test shows cylinder pressures are most likely but not definitely being controlled by the pistons, rings and cylinder liners at this time. Internal inspections is the only definitive way to determine cylinder condition.

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TRIAL RUN DATA:

Engine RPM'S were measured at full throttle with the use of a hand held tachometer. The port engine turned 2000 RPM'S, while the starboard engine turned 2000 RPM'S, which is normal.

The following conditions were found during the trial run, using state of the art test equipment (readings were taken at full throttle sustained).

The port engine fresh water temperature was 180 degrees and starboard was 183 degrees. The port engine oil pressure was 70 PSI and starboard was 67 PSI. The port turbo boost pressure was 21 PSI and the starboard was 20 PSI. Engine fresh water temperatures, engine oil pressures and turbo boost pressures were found to be normal during the trial run.

The exhaust showed some smoke with possible irregular oil consumption or fuel distribution which is to be expected due to the age of the engines. Some amount of smoke was noted during the cold start-up, which is normal for the age of the engines tested.

The exhaust stack temperatures were uniform port and starboard, showing a good balance between compression and fuel distribution. Port exhaust temperature was 720 degrees and starboard was 730 degrees.

The port engine oil sump temperature was 212 degrees and starboard was 213 degrees, which is normal.

The port engine transmission oil temperature was 141 degrees and starboard was 137 degrees, which is normal.

ENGINE INTERNAL INSPECTIONS:

Caterpillar engines cannot be internally inspected without dismantling the engines. No internal inspections (BORESCOPE) were ordered or performed but are recommended due to the age of the engines. Condition of the internal parts (rods, liners, pistons, crankshafts, bearings, valves and etc.) is unknown. If recommended internal inspections of the engines is requested, it will be conducted at a later date at an agreed upon rate at which time an addendum to this report will be issued.

CYLINDER LEAK DOWN TEST:

To best determine cylinder condition, (rings and liners) a cylinder leak down test would have to be performed. Cylinder leak down test are recommended but performed only if requested.

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ENGINE OIL LEAKS:

A few minor engine oil leaks were noted (most diesel engines leak some oil). Monitor the oil leaks, service if they become excessive.

MAINTENANCE INTERVAL SCHEDULE:

Caterpillar provides, with each type engine, a "Maintenance Interval Schedule", which can be found in the "Operation and Maintenance Manual". Proper operation and maintenance are key factors in obtaining the maximum life and economy of the engines. If the directions in the Operation and Maintenance Manual are followed, cost can be minimized and engine life can be maximized. **Note:, No proof was provided showing all factory recommended preventive maintenance tasks were performed for the hours and age of the engine. If no documentation is provided, then it is imperative to perform all factory recommended preventive maintenance tasks at this time for the hours posted and age of the engines.** Failure to comply could result in premature engine wear or break-down.

The diesel evaluation results were derived via non disassembly type testing procedures. No internal inspections were ordered or performed but are recommended. Marine engines are subjected to a corrosive environment, which makes forecasting engine life difficult (especially inactive machinery). Diesel engines require frequent maintenance to maintain full RPM potential and safe operation. Continuous operation should not exceed 80%, while full throttle should be avoided to obtain maximum life and minimize fuel consumption. Operation at continuous full throttle will shorten engine life. Remaining engine life is unknown. Speculation of remaining engine life is not warranted. Internal inspections would be needed to estimate remaining engine life and to determine if defects are present.

Remarks and recommendations pertaining to the port and starboard engines and transmissions are repairs which require attention, due to their immediate effect on safe and proper operation. Reinspection of repairs by Marine Diesel Surveyors, LLC. should be conducted.

This report is issued to the condition that it is understood and agreed that neither this office nor any surveyor or any employee is under any circumstances whatsoever to be held responsible in any way for any error in judgement, default or negligence nor for any inaccuracy, omission or misrepresentation in this report, and that the use of this report shall be construed to be an acceptance of the foregoing conditions.

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PORT REMARKS AND RECOMMENDATIONS:

1. A few of the fresh water and raw water hoses and clamps were found to be in deteriorating condition. Renew the hoses as needed using marine grade type hose material. Renew the clamps and double clamp all raw water hoses.
2. The Racor primary fuel filter selector valve handle is missing. Replace the missing handle.
3. No audible engine alarm was noted. Service the engine alarm as needed. Prove in proper operating condition.
4. The air filter was found to be in dirty condition. Clean and oil the air filter.
5. A few of the motor mount rubber grommets were found to be worn. Service the motor mounts as needed.

STARBOARD REMARKS AND RECOMMENDATIONS:

1. A few of the fresh water and raw water hoses and clamps were found to be in deteriorating condition. Renew the hoses as needed using marine grade type hose material. Renew the clamps and double clamp all raw water hoses.
2. Intermittent raw water leakage was noted at the raw water pump. Rebuild the raw water pump as good preventive maintenance.
3. No audible engine alarm was noted. Service the engine alarm as needed. Prove in proper operating condition.
4. The air filter was found to be in dirty condition. Clean and oil the air filter.
5. A few of the motor mount rubber grommets were found to be worn. Service the motor mounts as needed.

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ENGINE SURVEY REPORT

FILE NUMBER: MDS8270

VESSEL: "CHANTICLEER"

PORT GENERATOR:

MODEL:M6414TQT-HE-50L

SERIAL:4142-8025

HOURS:12,679

The Onan generator is a fresh water unit. The fresh water system was tested using a Stant pressure tester at operational pressure. The system showed no leaks. The fresh water cap held normal pressure. The system was clean and had antifreeze protection. Water temperature was tested and found to be normal. Engine oil pressure was tested and found to be normal. The fuel system is protected by a water/fuel separator and spin on secondary fuel filter. The generator was run under full load during the trial run, maintaining good voltage and phase. The exhaust showed little sign of oil or improper fuel atomization. Service to the following recommendations should be performed.

1. No proof was provided showing all factory recommended preventive maintenance tasks were performed for the hours and age of the unit. If no documentation is provided, then it is imperative to perform all factory recommended preventive maintenance tasks at this time for the hours posted and age of the unit.
2. Engine oil leakage was noted at the turbo.
3. A few of the fresh water, raw water and exhaust hoses and clamps were found to be in deteriorating condition. Renew the hoses as needed using marine grade type hose material. Renew the clamps and double clamp all raw water and exhaust hoses.

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ENGINE SURVEY REPORT

FILE NUMBER: MDS8270

VESSEL: "CHANTICLEER"

STARBOARD GENERATOR:

MODEL:M6414TQT-HE-50L

SERIAL:4142-8024

HOURS:12,057

The Onan generator is a fresh water unit. The fresh water system was tested using a Stant pressure tester at operational pressure. The system showed no leaks. The fresh water cap held normal pressure. The system was clean and had antifreeze protection. Water temperature was tested and found to be normal. Engine oil pressure was tested and found to be normal. The fuel system is protected by a water/fuel separator and spin on secondary fuel filter. The generator was run under full load during the trial run, maintaining good voltage and phase. The exhaust showed little sign of oil or improper fuel atomization. Service to the following recommendations should be performed.

1. No proof was provided showing all factory recommended preventive maintenance tasks were performed for the hours and age of the unit. If no documentation is provided, then it is imperative to perform all factory recommended preventive maintenance tasks at this time for the hours posted and age of the unit.
2. Engine oil leakage was noted at the turbo.
3. A few of the fresh water, raw water and exhaust hoses and clamps were found to be in deteriorating condition. Renew the hoses as needed using marine grade type hose material. Renew the clamps and double clamp all raw water and exhaust hoses.
4. Fuel leakage was noted at the lifter/supply fuel pump.

Signed without prejudice,

Joe Stafford, Sr.

JOE STAFFORD, SR. for the corporation.