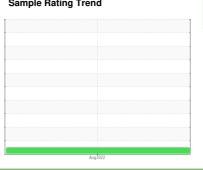


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



TURBINA 07 (S/N 101070)

Hydraulic System

SHELL TELLUS S2 VX 32 (320 LTR)

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition

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

SAMPLE INFORMATION							
Sample Number Client Info WC05674239					Aug2022	<u>.</u>	
Sample Date Client Info 12 Aug 2022	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mths Client Info 0	Sample Number		Client Info		WC05674239		
Oil Age Oil Changed mths Client Info N/A Sample Status Client Info N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 4 Chromium ppm ASTM D5185m >20 14 Nickel ppm ASTM D5185m >20 0 Silver ppm ASTM D5185m >20 0 Aluminum ppm ASTM D5185m >20 0 Aluminum ppm ASTM D5185m >20 0 Aluminum ppm ASTM D5185m >20 0 Copper ppm ASTM D5185m >20 0 Tin ppm ASTM D5185m >20 0	Sample Date		Client Info		12 Aug 2022		
Oil Changed Sample Status Client Info N/A	Machine Age	mths	Client Info		0		
WEAR METALS method limit/base current history1 history2	Oil Age	mths	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM DS185m >20 4	Oil Changed		Client Info		N/A		
Iron	Sample Status				NORMAL		
Chromium ppm ASTM D5185m >20 14 Nickel ppm ASTM D5185m >20 0 Titanium ppm ASTM D5185m <1 Silver ppm ASTM D5185m >20 0 Aluminum ppm ASTM D5185m >20 0 Lead ppm ASTM D5185m >20 0 Copper ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m >20 0 Cadmium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Barium	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 Titanium ppm ASTM D5185m <1 Silver ppm ASTM D5185m <20 0 Aluminum ppm ASTM D5185m >20 0 Lead ppm ASTM D5185m >20 6 Copper ppm ASTM D5185m >20 0 Tin ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m <1 Cadmium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 18 Calcium ppm	Iron	ppm	ASTM D5185m	>20	4		
Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>20	14		
Silver ppm ASTM D5185m <1	Nickel	ppm	ASTM D5185m	>20	0		
Aluminum	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m		<1		
Copper ppm ASTM D5185m >20 6 Tin ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 18 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 12 Phosphorus ppm ASTM D5185m 300 Sulfur ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309	Aluminum	ppm	ASTM D5185m	>20	0		
Tin ppm ASTM D5185m >20 0 Vanadium ppm ASTM D5185m <1	Lead	ppm	ASTM D5185m	>20	0		
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>20	6		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 18 Magnesium ppm ASTM D5185m 12 Calcium ppm ASTM D5185m 300 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 15 1	Tin	ppm	ASTM D5185m	>20	0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 300 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 300 Sulfur ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 1 Sulfur ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 <	Vanadium	ppm	ASTM D5185m		<1		
Boron ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 12 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 300 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 51 Sodium ppm ASTM D5185m 51 Potassium ppm ASTM D5185m 520 0 Putassium ppm ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >640 5 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 1 Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 12 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Boron	ppm	ASTM D5185m		0		
Manganese ppm ASTM D5185m 1 Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 300 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % <th>Barium</th> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td></td> <td></td>	Barium	ppm	ASTM D5185m		0		
Magnesium ppm ASTM D5185m 18 Calcium ppm ASTM D5185m 12 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 Ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2	Molybdenum	ppm	ASTM D5185m		<1		
Calcium ppm ASTM D5185m 12 Phosphorus ppm ASTM D5185m 300 Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 1 Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >1 Particles >4µm ASTM D6304 >0.05 0.010 FLUID CLEANLINESS method limit/base	Manganese	ppm	ASTM D5185m		1		
Phosphorus ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 Sulfur ppm ASTM D5185m 8309 Sulfur ppm ASTM D5185m >15 1 Sulfum ppm ASTM D5185m >1 Sulfum ppm ASTM D5185m >20 0 Sulfum ppm ASTM D6304 >0.05 0.010 Puticles >4μm ASTM D6304 >500 105.2 Particles >6μm ASTM D7647 >5000 68 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Magnesium	ppm	ASTM D5185m		18		
Zinc ppm ASTM D5185m 284 Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Water % ASTM D5185m >20 0 Ppm Water % ASTM D6304 >0.05 0.010 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 68	Calcium	ppm	ASTM D5185m		12		
Sulfur ppm ASTM D5185m 8309 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 Particles >4µm ASTM D7647 >5000 68 Particles >21µm ASTM D7647 >160 1 <th>Phosphorus</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>300</th> <th></th> <th></th>	Phosphorus	ppm	ASTM D5185m		300		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >1 Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness	Zinc	ppm	ASTM D5185m		284		
Silicon ppm ASTM D5185m >15 1 Sodium ppm ASTM D5185m 20 0 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10 <th>Sulfur</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>8309</th> <th></th> <th></th>	Sulfur	ppm	ASTM D5185m		8309		
Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Silicon	ppm	ASTM D5185m	>15	1		
Water % ASTM D6304 >0.05 0.010 ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Sodium	ppm	ASTM D5185m		1		
ppm Water ppm ASTM D6304 >500 105.2 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Potassium	ppm	ASTM D5185m	>20	0		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 474 Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Water	%	ASTM D6304	>0.05	0.010		
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	ppm Water	ppm	ASTM D6304	>500	105.2		
Particles >6μm ASTM D7647 >5000 68 Particles >14μm ASTM D7647 >640 5 Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Particles >4μm		ASTM D7647				
Particles >21μm ASTM D7647 >160 1 Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10			ASTM D7647	>5000	68		
Particles >38μm ASTM D7647 >40 0 Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	·				5		
Particles >71μm ASTM D7647 >10 0 Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Particles >21µm			>160	1		
Oil Cleanliness ISO 4406 (c) >/19/16 16/13/10	Particles >38µm			>40	0		
	•		ASTM D7647	>10	0		
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		ISO 4406 (c)	>/19/16	16/13/10		
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2

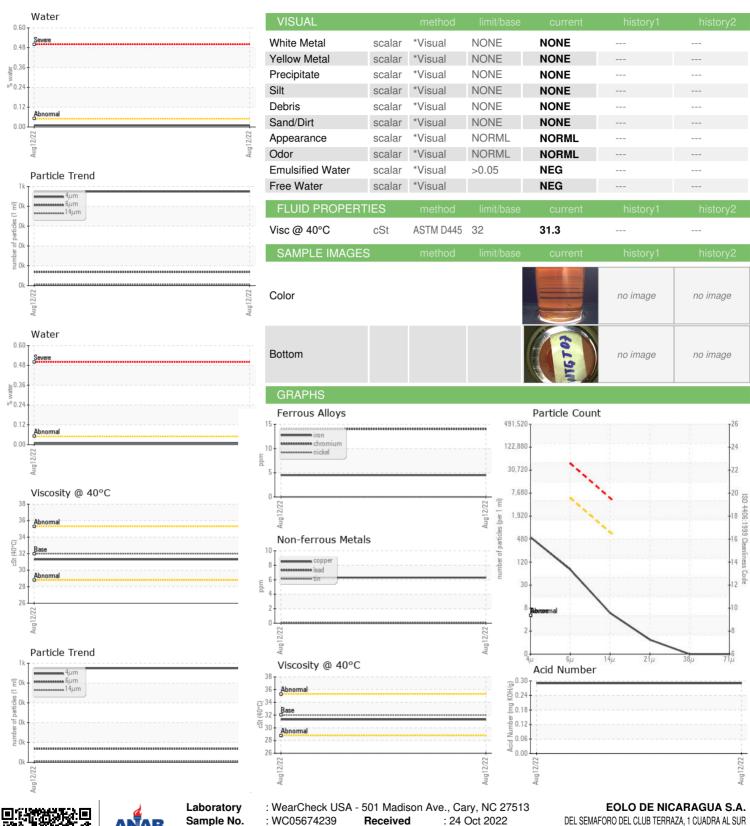
Acid Number (AN)

mg KOH/g ASTM D8045

0.29



OIL ANALYSIS REPORT







Certificate L2367

Sample No. Lab Number **Unique Number**

: WC05674239 : 05674239

: 10188810

Received Diagnosed

Test Package : IND 2 (Additional Tests: KF)

: 25 Oct 2022 Diagnostician : Don Baldridge

DEL SEMAFORO DEL CLUB TERRAZA, 1 CUADRA AL SUR

MANAGUA, ZZ

NΙ

Contact: Rafael Bermudez

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)

T: F: