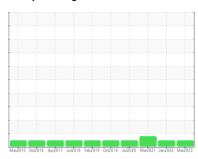


# **OIL ANALYSIS REPORT**

Area **10** WTG-1002 (S/N 4836491-0020-3)

**Hydraulic System** 

SHELL TELLUS 32 (--- LTR)



Sample Rating Trend



### 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.

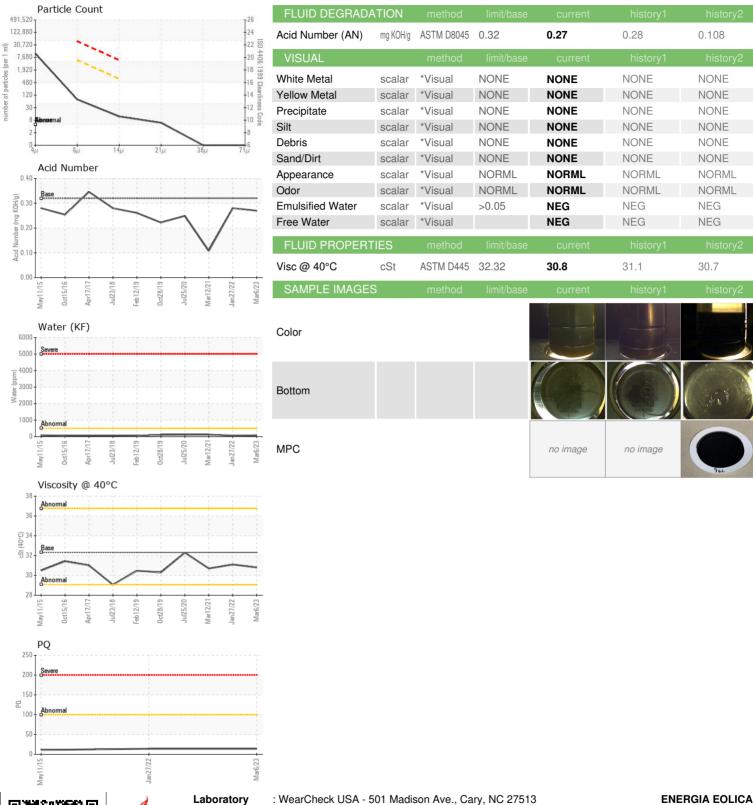
### **Fluid Condition**

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

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SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0804493	WC05504457	WC0547248
Sample Date		Client Info		06 Mar 2023	27 Jan 2022	12 Mar 2021
Machine Age	mths	Client Info		0	60	120
Oil Age	mths	Client Info		0	5	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	SEVERE
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		14	14	
Iron	ppm	ASTM D5185m	>20	3	2	4
Chromium	ppm	ASTM D5185m	>20	9	6	10
Nickel	ppm	ASTM D5185m	>20	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	<1	0
Aluminum	ppm	ASTM D5185m	>20	<1	0	0
Lead	ppm	ASTM D5185m		0	0	<1
Copper	ppm	ASTM D5185m	>20	3	4	7
Tin	ppm	ASTM D5185m	>20	0	0	<1
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base			history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m ASTM D5185m		0	0	0
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m		0 <1	0	0 <1
Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m		0 <1 <1	0 0	0 <1 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	11	0 <1 <1 24	0 0 0 0 14	0 <1 <1 4
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	35	0 <1 <1 24 20	0 0 0 14 25	0 <1 <1 4 20
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	35 259	0 <1 <1 24 20 283	0 0 0 14 25 300	0 <1 <1 4 20 273
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	35 259 277	0 <1 <1 24 20 283 300	0 0 0 14 25 300 298	0 <1 <1 <20 273 246
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	35 259 277 1865	0 <1 <1 24 20 283	0 0 0 14 25 300 298 2146	0 <1 <1 <20 273 246 3936
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	35 259 277	0 <1 <1 24 20 283 300	0 0 0 14 25 300 298	0 <1 <1 <20 273 246 3936 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865	0 <1 <1 24 20 283 300 2303 current <1	0 0 0 14 25 300 298 2146 history1	0 <1 <1 <4 20 273 246 3936 history2 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865 limit/base >15	0 <1 <1 24 20 283 300 2303 current <1 1	0 0 0 14 25 300 298 2146 history1 0	0 <1 <1 <4 <20 273 246 3936 history2 <1 0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865 limit/base >15	0 <1 <1 <24 <20	0 0 0 14 25 300 298 2146 history1 0	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865 limit/base >15 >20 >0.05	0 <1 <1 24 20 283 300 2303 current <1 1 <1 0.007	0 0 0 14 25 300 298 2146 history1 0 0	0 <1 <1 4 20 273 246 3936 history2 <1 0 <1 0.012
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865 limit/base >15	0 <1 <1 <24 <20	0 0 0 14 25 300 298 2146 history1 0	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	35 259 277 1865 limit/base >15 >20 >0.05	0 <1 <1 24 20 283 300 2303 current <1 1 <1 0.007	0 0 0 14 25 300 298 2146 history1 0 0	0 <1 <1 4 20 273 246 3936 history2 <1 0 <1 0.012
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304	35 259 277 1865 limit/base >15 >20 >0.05 >500	0 <1 <1 24 20 283 300 2303 current <1 1 <1 0.007 74.5	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304	35 259 277 1865 limit/base >15 >20 >0.05 >500 limit/base	0 <1 <1 <24 <20	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304	35 259 277 1865 limit/base >15 >20 >0.05 >500 limit/base	0 <1 <1	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5 history1	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647	35 259 277 1865 limit/base >15 >20 >0.05 >500 limit/base	0 <1 <1 <24 <20	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5 history1 113767 2044	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	35 259 277 1865 limit/base >15 >20 >0.05 >500 limit/base	0 <1 <1	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5 history1 113767 2044 51	0 <1 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	35 259 277 1865 limit/base >15 >20 >0.05 >500 limit/base >5000 >640 >160	0 <1 <1 <24 <20	0 0 0 14 25 300 298 2146 history1 0 0 0.006 61.5 history1 113767 2044 51	0 <1 <1 <1 <4 <1 <4 <1 <4 <1 <4 <1 <4 <1 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4 <4



## **OIL ANALYSIS REPORT**





Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** 

: 05857973 : 10492438

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WC0804493 Received

Diagnosed Diagnostician Test Package : IND 2 (Additional Tests: KF, PQ)

: 26 May 2023 : 30 May 2023 : Jonathan Hester

**ENERGIA EOLICA** STA ANA KM25 CARRETERA AL SUR, A 1KM DEL CRUCE FRANCISCO MORAZAN, ZZ

HN

Contact: SANTOS DEL CID sdelcid@dencmi.com

T: x:

\* - 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)

F: x: