

# **OIL ANALYSIS REPORT**



Machine Id

60024-L02 Hydraulic System SHELL TELLUS 46 (250 LTR)

# DIAGNOSIS

### A Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

# 🔺 Wear

Copper and iron ppm levels are abnormal.

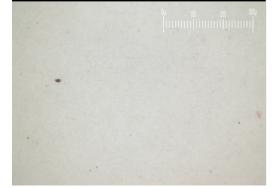
# Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate concentration of dirt present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

Particle Filter (Magn: 200 x)

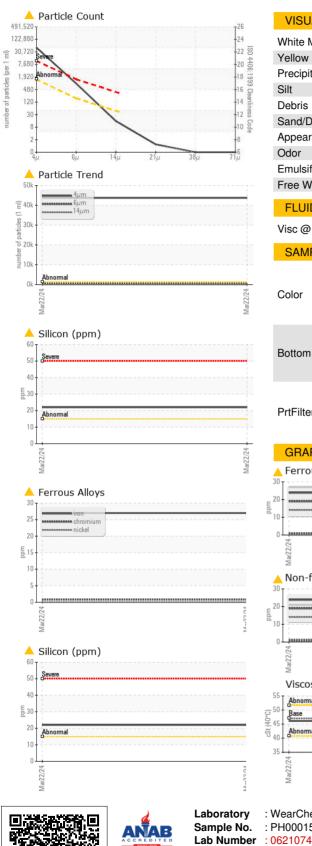


SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PH0001567		
Sample Date		Client Info		22 Mar 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				ABNORMAL		
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.05	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<b>2</b> 7		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>20	0		
Titanium	ppm	ASTM D5185m	220	<1		
Silver	ppm	ASTM D5185m		0		
Aluminum	ppm	ASTM D5185m	>20	2		
Lead	ppm	ASTM D5185m	>20	- <1		
Copper	ppm	ASTM D5185m	>20	▲ 21		
Tin	ppm	ASTM D5185m	>20	1		
Vanadium	ppm	ASTM D5185m	20	0		
Cadmium	ppm	ASTM D5185m		0		
	ppiii			v		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0.0	0		
Barium						
	ppm	ASTM D5185m	0	<1		
Molybdenum	ppm	ASTM D5185m	0	0		
Molybdenum Manganese		ASTM D5185m ASTM D5185m	0	0 <1		
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 <1 68		
Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35	0 <1 68 12		
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 <1 68 12 319		
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35 266 276	0 <1 68 12 319 405		
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35 266	0 <1 68 12 319		
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35 266 276	0 <1 68 12 319 405	  	  
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 limit/base	0 <1 68 12 319 405 765	   	
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	0 11 35 266 276 1847 limit/base >15	0 <1 68 12 319 405 765 current	   	   
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 11 35 266 276 1847 limit/base >15	0 <1 68 12 319 405 765 current ▲ 22	   	   
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 limit/base >15	0 <1 68 12 319 405 765 <i>current</i> 22 0	    history1	   
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 limit/base >15 >20	0 <1 68 12 319 405 765 current 22 0 1	    history1  	    history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 Imit/base >15 >20 Imit/base	0 <1 68 12 319 405 765 current 22 0 1 1	    history1   history1	     history2   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4μm Particles >14μm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 Imit/base >15 >20 Imit/base >1300	0 <1 68 12 319 405 765 <u>current</u> 22 0 1 2 0 1 2 × 43722	    history1   history1  history1	     history2   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 11 35 266 276 1847 <b>limit/base</b> >15 >20 <b>limit/base</b> >1300 >160	0 <1 68 12 319 405 765 current 22 0 1 22 0 1 1 current 43722 ▲ 43722	    history1   history1	     history2   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	0 11 35 266 276 1847 Imit/base >15 >20 Imit/base >1300 >160 >40	0 <1 68 12 319 405 765 Current 22 0 1 22 0 1 1 € Current 43722 4 827 13	     history1   history1	      history2   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 11 35 266 276 1847 Imit/base >15 >20 Imit/base >1300 >160 >40 >10	0 <1 68 12 319 405 765 Current 22 0 1 22 0 1 1 € 43722 ▲ 827 13 1	    history1   history1  history1	     history2   history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 11 35 266 276 1847 base >15 >20 bimit/base >1300 >1300 >160 >40 >10 >3	0 <1 68 12 319 405 765 current 22 0 1 22 0 1 x current 4 322 0 1 x x x x x x x x x x x x x x x x x x	   history1   history1  history1	   history2   history2  history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm Particles >71µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ESS	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	0 11 35 266 276 1847 <b>limit/base</b> >15 >20 <b>limit/base</b> >1300 >160 >10 >10 >3 >3 >3	0 <1 68 12 319 405 765 current 22 0 1 22 0 1 x x 43722 ▲ 43722 13 13 1 0 0 0	     history1   history1   history1 	     history2   history2   history2

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# **OIL ANALYSIS REPORT**



6	VISUAL		method	limit/base	current	history1	history
	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	>0.05	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPERT	TIES	method	limit/base	current	history1	history
	Visc @ 40°C	cSt	ASTM D445	46.99	46.1		
	SAMPLE IMAGE	S	method	limit/base	current	history1	history
	Color				a.	no image	no imag
	Bottom					no image	no image
	PrtFilter				-	no image	no image
	Ferrous Alloys			Pa Pa	urticle Filter (M	Ûц	100 200 Lut   1111   1111   1111
	Non-ferrous Metal	ls			•		•
	Viscosity @ 40°C			0.0.0 (0) (0) (0) (0) (0) (0) (0) (0) (0) (0	Acid Number		
Veree	35 35 4 2 2 2 5 2 5 2 5 2 5 7 2 5 8 7 2 2 8 0 7 2 8 9 7 2 7 8 9 7 2 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 7 8 9 8 9			Mar22/24	Mar22/24		

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)

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Certificate L2367

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