

# **OIL ANALYSIS REPORT**

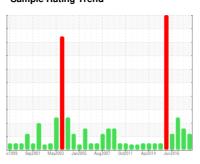
# Sample Rating Trend

## **VISUAL METAL**

# BARRIER DEPARTMENT SAMPLES DAVIS STAND WEB 11 C SARAN (S/N J8816)

Component Gearbox

**TEXACO MEROPA 220 (15 GAL)** 





### **DIAGNOSIS**

#### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to metal particles present in this sample.

Moderate concentration of visible metal present. All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the component.

#### **Fluid Condition**

The AN level is acceptable for this fluid.

SAMPLE INFORMA	ATION	method	limit/base	Olymont	historya	history
	ATION		IIIIII/base	current	history1	history2
Sample Number		Client Info		WCI2319703	WCI2309849	WCI2277309
Sample Date		Client Info		04 Feb 2018	22 Aug 2017	10 May 2017
	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	10	11	10
Chromium	ppm	ASTM D5185m	>15	<1	<1	0
Nickel	ppm	ASTM D5185m	>15	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>25	<1	0	<1
Lead	ppm	ASTM D5185m	>100	0	1	<1
Copper	ppm	ASTM D5185m	>200	40	28	20
Tin	ppm	ASTM D5185m	>25	<1	<1	0
Antimony	ppm	ASTM D5185m		<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
_	ppm	method ASTM D5185m	limit/base 3.2	current 3	history1	history2
Boron	ppm ppm					
Boron Barium		ASTM D5185m	3.2	3	3	3
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	3.2 0.5	3 0	3	3
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5	3 0 <1	3 0 1	3 0 1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1	3 0 <1 <1	3 0 1 <1	3 0 1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1	3 0 <1 <1 <1	3 0 1 <1 0	3 0 1 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6	3 0 <1 <1 <1 <1	3 0 1 <1 0 <1	3 0 1 <1 0 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159	3 0 <1 <1 <1 <1 <1 100	3 0 1 <1 0 <1 97	3 0 1 <1 0 <1 117
Boron 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 ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5	3 0 <1 <1 <1 <1 100 32	3 0 1 <1 0 <1 97 25	3 0 1 <1 0 <1 117
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base	3 0 <1 <1 <1 <1 100 32 4577	3 0 1 <1 0 <1 97 25 3115	3 0 1 <1 0 <1 117 12 4563
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm 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	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base	3 0 <1 <1 <1 <1 100 32 4577 current	3 0 1 <1 0 <1 97 25 3115 history1	3 0 1 <1 0 <1 117 12 4563 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50	3 0 <1 <1 <1 <1 100 32 4577 current	3 0 1 <1 0 <1 97 25 3115 history1	3 0 1 <1 0 <1 117 12 4563 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm	ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50	3 0 <1 <1 <1 <1 100 32 4577 current 4	3 0 1 <1 0 <1 97 25 3115 history1 6 <1	3 0 1 <1 0 <1 117 12 4563 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20	3 0 <1 <1 <1 <1 100 32 4577 current 4 2	3 0 1 <1 0 <1 97 25 3115 history1 6 <1	3 0 1 <1 0 <1 117 12 4563 history2 4 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE	ppm	ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 	3 0 <1 <1 <1 <1 100 32 4577 current 4 2	3 0 1 <1 0 <1 97 25 3115 history1 6 <1 <1	3 0 1 <1 0 <1 117 12 4563 history2 4 1 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm	ppm	ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50   limit/base	3 0 <1 <1 <1 <1 100 32 4577 current 4 2 0	3 0 1 <1 0 <1 97 25 3115 history1 6 <1 <1 <1	3 0 1 <1 0 <1 117 12 4563 history2 4 1 4 history2 ▲ 97213
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >6µm	ppm	ASTM D5185m  method ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20 limit/base >20000 >5000	3 0 <1 <1 <1 <1 100 32 4577  current 4 2 0  current	3 0 1 <1 0 <1 97 25 3115 history1 6 <1 <1 1 history1 △ 56475 △ 17698	3 0 1 <1 0 <1 117 12 4563 history2 4 1 4 history2 ▲ 97213 ▲ 32269
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium Particles >4µm Particles >6µm Particles >14µm	ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20 limit/base >20000 >5000 >640	3 0 <1 <1 <1 <1 100 32 4577  current 4 2 0  current	3 0 1 <1 0 <1 97 25 3115 history1 6 <1 <1 history1 △ 56475 △ 17698 △ 1663	3 0 1 <1 0 <1 117 12 4563 history2 4 1 4 history2 △ 97213 △ 32269 △ 3475
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINE Particles >4µm Particles >14µm Particles >21µm	ppm	ASTM D5185m  Method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20 limit/base >20000 >5000 >640 >160	3 0 <1 <1 <1 <1 100 32 4577  current 4 2 0  current	3 0 1 <1 0 <1 97 25 3115 history1 6 <1 <1 1 17698 △ 1663 △ 424	3 0 1 <1 0 <1 117 12 4563 history2 4 1 4 history2 △ 97213 △ 32269 △ 3475 △ 980

ISO 4406 (c) >21/19/16

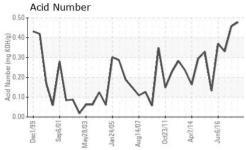
Oil Cleanliness

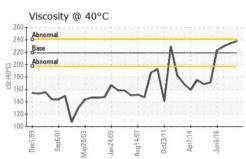
<u>\</u> 23/21/18

**24/22/19** 



# **OIL ANALYSIS REPORT**

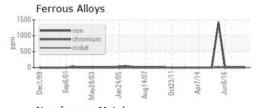


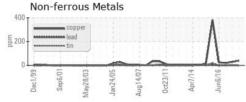


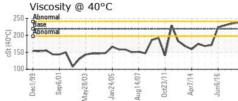
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.478	0.457	0.330
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ MODER	LIGHT	MODER
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	219	237.8	234.2	229.6
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						

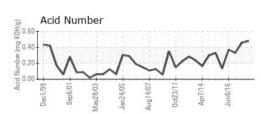
## **GRAPHS**

**Bottom** 













Certificate L2367

Laboratory Sample No. Lab Number : 04399984 Unique Number : 8083642

: WCI2319703

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

: 05 Feb 2018 **Tested** Diagnosed

: 07 Feb 2018 : 07 Feb 2018 - Jonathan Hester

**SEALED AIR CORP - CRYOVAC DIVISION** 1301 WEST MAGNOLIA AVE

IOWA PARK, TX US 76367

Contact: KEVIN KETCHERSID kevin.a.ketchersid@sealedair.com

T: (940)592-2111

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)

Test Package: IND 2 (Additional Tests: PrtCount)

F: (940)592-2513 Contact/Location: KEVIN KETCHERSID - CRYIOW