

# **OIL ANALYSIS REPORT**

## **BARRIER DEPARTMENT SAMPLES REIFENHAUSER WEB 15 B** Component

Gearbox Fluic

## **TEXACO MEROPA 220 (10 GAL)**

### Recommendation

Resample at the next service interval to monitor.

### Wear

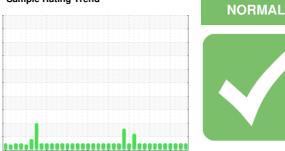
All component wear rates are normal.

### Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

### Fluid Condition

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



Sample Rating Trend

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0869517	WC0456169	WC0608721
Sample Date		Client Info		20 Nov 2023	30 Oct 2022	24 Jan 2022
Machine Age	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				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	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	6	8	8
Chromium	ppm	ASTM D5185m	>15	<1	0	0
Nickel	ppm	ASTM D5185m	>15	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	2	<1	0
Lead	ppm	ASTM D5185m	>100	0	<1	0
Copper	ppm	ASTM D5185m	>200	<1	<1	<1
Tin	ppm	ASTM D5185m	>25	0	0	0
Antimony	ppm	ASTM D5185m	>5			0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES	11	method	limit/base	ourropt	history1	history2
	maa		3.2	current 9		
Boron	ppm	ASTM D5185m	3.2	9	8	26
Boron Barium	ppm	ASTM D5185m ASTM D5185m	3.2 0.5	9 0	8 0	26 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	3.2	9 0 3	8 0 3	26 0 3
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1	9 0 3 0	8 0 3 <1	26 0 3 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1	9 0 3 0 16	8 0 3 <1 14	26 0 3 <1 14
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm 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	9 0 3 0 16 30	8 0 3 <1 14 30	26 0 3 <1 14 31
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159	9 0 3 0 16 30 239	8 0 3 <1 14 30 220	26 0 3 <1 14 31 228
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159	9 0 3 0 16 30	8 0 3 <1 14 30	26 0 3 <1 14 31
Boron 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	3.2 0.5 1.1 0.1 1.6 159 0.5	9 0 3 0 16 30 239 6	8 0 3 <1 14 30 220 15	26 0 3 <1 14 31 228 15
Boron 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	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base	9 0 3 0 16 30 239 6 13846	8 0 3 <1 14 30 220 15 13513	26 0 3 <1 14 31 228 15 11657
Boron Barium 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 ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base	9 0 3 0 16 30 239 6 13846	8 0 3 <1 14 30 220 15 13513 history1	26 0 3 <1 14 31 228 15 15 11657 history2
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 <b>method</b>	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50	9 0 3 0 16 30 239 6 13846 239 2	8 0 3 <1 14 30 220 15 13513 history1 2	26 0 3 <1 14 31 228 15 11657 history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50	9 0 3 0 16 30 239 6 13846 <u>current</u> 2 0	8 0 3 <1 14 30 220 15 13513 history1 2 <1	26 0 3 <1 14 31 228 15 15 11657 history2 2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50	9 0 3 0 16 30 239 6 13846 <u>current</u> 2 0 1	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0	26 0 3 <1 14 31 228 15 11657 history2 2 1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20 limit/base	9 0 3 0 16 30 239 6 13846 <i>current</i> 2 0 1 <i>current</i>	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1	26 0 3 <1 14 31 228 15 11657 history2 2 1 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 limit/base >50 >20 limit/base	9 0 3 0 16 30 239 6 13846 <i>current</i> 2 0 1 <i>current</i> 33336	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1 47904	26 0 3 <1 14 31 228 15 11657 history2 2 1 0 history2 37702
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 <b>limit/base</b> >50 <b>limit/base</b> >20	9 0 3 0 16 30 239 6 13846 <i>current</i> 2 0 1 2 0 1 <i>current</i> 33336 3746	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1 47904 4608	26 0 3 <1 14 31 228 15 11657 history2 2 1 0 kistory2 37702 3254
Boron Barium 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 ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 <b>limit/base</b> >50 <b>limit/base</b> >20	9 0 3 0 16 30 239 6 13846 <u>current</u> 2 0 1 2 0 1 2 33336 3746 45	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1 47904 4608 69	26 0 3 <1 14 31 228 15 11657 history2 2 1 0 5 37702 3254 53
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 <b>limit/base</b> >50 >20 <b>limit/base</b> >500 >640 >160 >40	9 0 3 0 16 30 239 6 13846 <u>current</u> 2 0 1 2 0 1 1 <u>current</u> 33336 3746 45 5	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1 47904 4608 69 5	26 0 3 <1 14 31 228 15 11657 <b>history2</b> 2 1 0 <b>history2</b> 37702 3254 53 7
Boron Barium 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 ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	3.2 0.5 1.1 0.1 1.6 159 0.5 10342 <b>limit/base</b> >50 >20 <b>limit/base</b> >500 >640 >160 >40	9 0 3 0 16 30 239 6 13846 <b>current</b> 2 0 1 2 0 1 1 <b>current</b> 33336 3746 45 5 0	8 0 3 <1 14 30 220 15 13513 history1 2 <1 0 history1 47904 4608 69 5 0	26 0 3 <1 14 31 228 15 11657 <b>history2</b> 2 1 0 <b>history2</b> 37702 3254 53 7 0

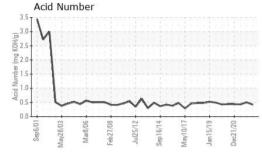


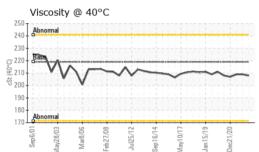
**OIL ANALYSIS REPORT** 

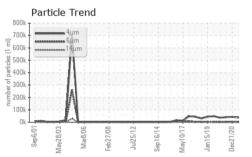
Color

Bottom

F 800k <del>-</del>	Partio	cle Tr	end							
700k -		4μm 6μm								
E 600k -		<b>πη</b> 14μι								
종 500k -		1								
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g 200k -		A		-hini-i				- Hink		
100k										
UK -	I n/adae	May28/03	Mar8/06	Feb27/08.	Jul25/12	Sep16/14.	May10/17	Jan 15/19	Dec21/20	



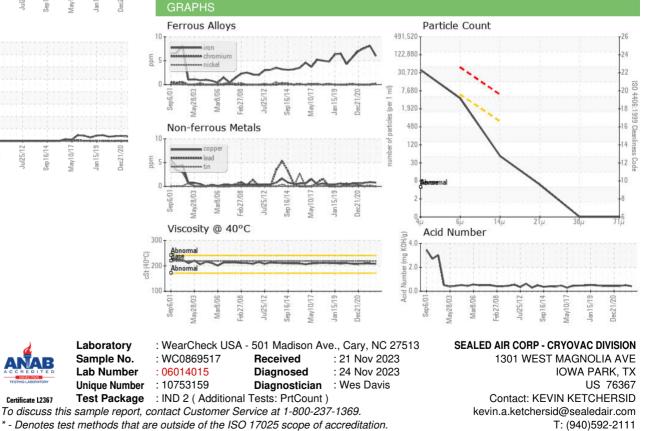




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FLUID DEGRADA		method	limit/base	current	history1	history2
			IIIIII/Dase		Thistory I	mstoryz
Acid Number (AN)	mg KOH/g	ASTM D8045		0.42	0.50	0.43
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow 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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	219	208	209	209
SAMPLE IMAGES		method	limit/base	current	history1	history2





\* - 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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