

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Plant US1 Greenville **Roto Strip Mill - Gearbox** Component

Gearbox Fluid SHELL OMALA 460 (--- GAL)

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

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.

				Feb2024				
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		TLC0001540				
Sample Date		Client Info		19 Feb 2024				
Machine Age	hrs	Client Info		0				
Oil Age	hrs	Client Info		0				
Oil Changed		Client Info		N/A				
Sample Status				NORMAL				
CONTAMINATION	J	method	limit/base	current	history1	history2		
Water		WC Method	>0.2	NEG				
WEAR METALS		method	limit/base	current	history1	history2		
PQ		ASTM D8184		15				
Iron	ppm	ASTM D5185m	>200	6				
Chromium	ppm	ASTM D5185m	>15	0				
Nickel	ppm	ASTM D5185m	>15	<1				
Titanium	ppm	ASTM D5185m		0				
Silver	ppm	ASTM D5185m		0				
Aluminum	ppm	ASTM D5185m		<1				
Lead	ppm	ASTM D5185m		0				
Copper	ppm	ASTM D5185m	>200	<1				
Tin	ppm	ASTM D5185m	>25	<1				
Vanadium	ppm	ASTM D5185m		0				
Cadmium	ppm	ASTM D5185m		0				
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	6.2	4				
Barium	ppm	ASTM D5185m	0.0	0				
Molybdenum	ppm	ASTM D5185m	0	0				
Manganese	ppm	ASTM D5185m		<1				
Magnesium	ppm	ASTM D5185m	0	<1				
Calcium	ppm	ASTM D5185m	0.0	2				
Phosphorus	ppm	ASTM D5185m	290	289				
Zinc	ppm	ASTM D5185m		0				
Sulfur	ppm	ASTM D5185m	8167	15502				
CONTAMINANTS		method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>50	2				
Sodium	ppm	ASTM D5185m		<1				
Potassium	ppm	ASTM D5185m	>20	<1				
FLUID DEGRADA	TION	method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045	0.44	0.46				



0.50

(B/H0.40 ₽°0.30 -q u 0.20 Pio 0.10 0.00 Feb19/24

550

500

(), 450 (), 450 ts 400

350 Abnormal

300

200 Seven

150 2

Abnorma 100 50 0 Feb19/24

Feb 1 PQ 250

OIL ANALYSIS REPORT

Acid Number	VISUAL		method	limit/base	current	history1	history2
Base	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate		*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
-	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
Feb 19/24	Appearance	scalar	*Visual	NORML	NORML		
Feb1	Odor	scalar	*Visual	NORML	NORML		
Viscosity @ 40°C	Emulsified Water	scalar	*Visual	>0.2	NEG		
T	Free Water	scalar	*Visual		NEG		
Abnormal	FLUID PROPERT	IES	method	limit/base	current	history1	history2
Base	Visc @ 40°C	cSt	ASTM D445	460	445		
1	SAMPLE IMAGES	\$	method	limit/base	current	history1	history2
Abnormal							
Feb19/24 -	Color					no image	no image
PQ Severe	Bottom					no image	no image
A	GRAPHS						
- Abnormal	Ferrous Alloys				PQ		
-	10 iron			220	T:		
	o - chromium			200	Severe		
Feb 19/24	E 6			180			
₽ ú	2			160	•		
	0			140			
	Feb 19/24			120 Feb19/24			
	Feb			분 문 ¹¹⁰⁰	Abnormal		
	Non-ferrous Metals	5					
	8 - copper			80			
	E 6+			60)+		
				40) +		
	2			20			
	() 			24			+
	Feb 19/24			Feb19/24	Feb 19/24		Feb19/24
	Viscosity @ 40°C				۳ Acid Number		Ľ.
	550 Abnormal						
	500 - Barr			(B/HO) 0.40)		
	() 450 - Base () 450 - Base () 450 - Base			ຍັ 0.30			
	ස් 400 350 _Abnormal			4 0.20	+		
	300			E 0.30			
	Feb19/24			Feb19/24	Feb19/24 -		Feb19/24 -
	Feb			Feb	Feb		Feb
Laboratory Sample No. Lab Number Unique Number Test Package	: 10896794	l Madisor Receiv Testeo Diagno	ved : 23 d : 26	, NC 27513 Feb 2024 Feb 2024 Feb 2024 Feb 2024 - W	140	1 ANTIOCH CH	LE US 1 JN DOCK HURCH ROAD Greenville, SC US 29605

Test Package : PLANT Contact: Nicolas Jackson Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. nicolas.jackson@michelin.com * - 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)

Submitted By: Nicolas Jackson Page 2 of 2

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