

PROBLEM SUMMARY

UNKNOWN AREA

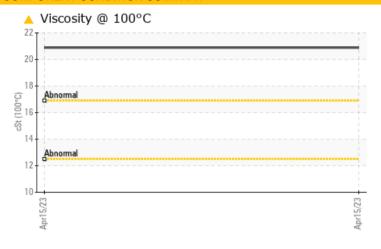
[ÜNKNOWN AREA] SHELL OMALA S2 GX 460 - TLC0001192

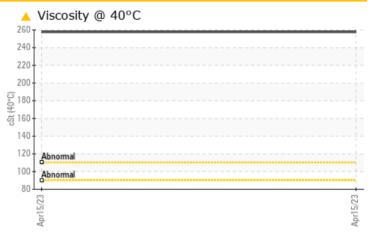
Component
New (Unused) Oil

{not provided} (--- GAL)



COMPONENT CONDITION SUMMARY





RECOMMENDATION

This is a baseline read-out on the submitted sample.

PROBLEMATIC TEST RESULTS											
Sample Status			ATTENTION								
Visc @ 40°C	cSt	ASTM D445	<u>^</u> 257.7								
Visc @ 100°C	cSt	ASTM D445	20.89								

Customer Id: MICAND Sample No.: TLC0001192 Lab Number: 05853657 Test Package: PLANT



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 ihester@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

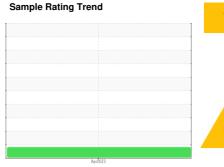


OIL ANALYSIS REPORT

UNKNOWN AREA [ÜNKNOWN AREA] SHELL OMALA S2 GX 460 - TLC0001192

New (Unused) Oil

{not provided} (--- GAL)





DIAGNOSIS

Recommendation

This is a baseline read-out on the submitted sample.

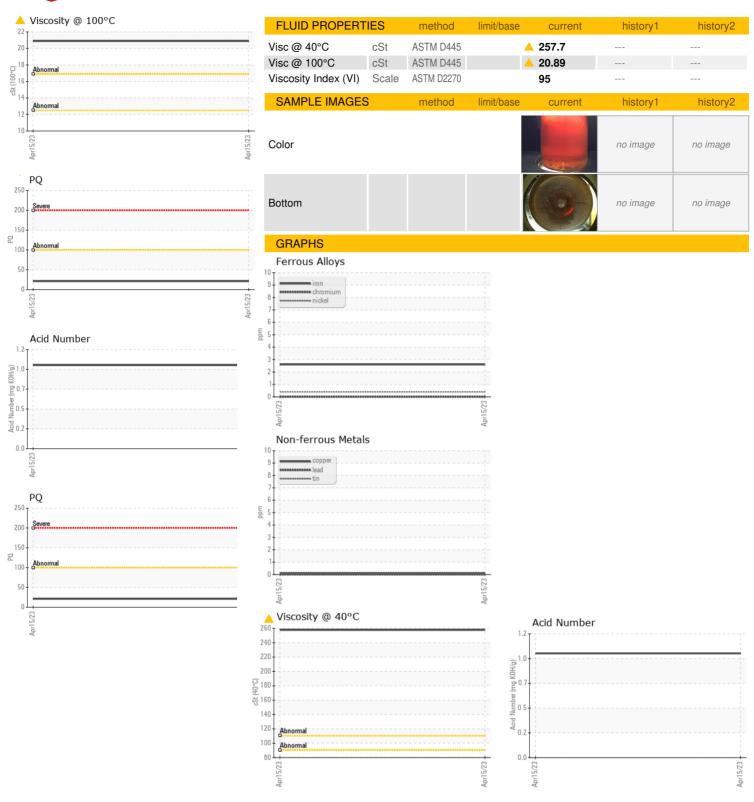
Fluid Condition

Viscosity of sample indicates oil is within ISO 220 range, advise investigate.

Sample Number	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0	Sample Number		Client Info		TLC0001192		
Oil Changed Oil Changed Client Info N/A Sample Status method Imitibase current history1 history2 PQ ASTM D5185h 25 3 Chromium ppm ASTM D5185h >5 0 Nickel ppm ASTM D5185h >5 1 Silver ppm ASTM D5185h >5 1 Silver ppm ASTM D5185h >5 1 Aluminum ppm ASTM D5185h >5 0 Silver ppm ASTM D5185h >5 0 Aluminum ppm ASTM D5185h >5 0 Copper ppm ASTM D5185h >5 <1 Caddium ppm ASTM D5185h <1	Sample Date		Client Info		15 Apr 2023		
Oil Changed Sample Status Client Info N/A	Machine Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 21 Iron ppm ASTM D5185m >5 3 Chromium ppm ASTM D5185m >5 0 Nickel ppm ASTM D5185m >5 0 Titanium ppm ASTM D5185m >5 1 Alluminum ppm ASTM D5185m >5 0 Lead ppm ASTM D5185m >5 0 Copper ppm ASTM D5185m >5 <1	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 PQ ASTM D8184 21 Iron ppm ASTM D5185m >5 3 Chromium ppm ASTM D5185m >5 0 Nickel ppm ASTM D5185m >5 <1	Oil Changed		Client Info		N/A		
PQ	Sample Status				ATTENTION		
Iron	WEAR METALS		method	limit/base	current	history1	history2
Chromium ppm ASTM D5185m >5 0 Nickel ppm ASTM D5185m >5 <1	PQ		ASTM D8184		21		
Nickel ppm ASTM D5185m >5 <1 Titanium ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m >5 1 Aluminum ppm ASTM D5185m >5 0 Aluminum ppm ASTM D5185m >5 <1	Iron	ppm	ASTM D5185m	>5	3		
Titanium	Chromium	ppm	ASTM D5185m	>5	0		
Silver	Nickel	ppm	ASTM D5185m	>5	<1		
Aluminum	Titanium	ppm	ASTM D5185m		0		
Lead	Silver	ppm	ASTM D5185m	>5	1		
Copper ppm ASTM D5185m >5 <1 Tin ppm ASTM D5185m >5 <1	Aluminum	ppm	ASTM D5185m	>5	0		
Tin ppm ASTM D5185m >5 <1 Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 108 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 2 Manganesium ppm ASTM D5185m 5 Magnesium ppm ASTM D5185m 5 Phosphorus ppm ASTM D5185m 573 Sulfur ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m >15 <1 Solitur ppm ASTM D5185m >>15	Lead	ppm	ASTM D5185m	>5	0		
Vanadium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 108 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 2 Magnesium ppm ASTM D5185m 5 Calcium ppm ASTM D5185m 5 Phosphorus ppm ASTM D5185m 5 Sulfur ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 Sulfur ppm ASTM D5185m >15 <1	Copper	ppm	ASTM D5185m	>5	<1		
ADDITIVES	Tin	ppm	ASTM D5185m	>5	<1		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 108 Barium ppm ASTM D5185m 0 Molybdenum ppm ASTM D5185m <1	Vanadium	ppm	ASTM D5185m		0		
Boron	Cadmium	ppm	ASTM D5185m		<1		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m <1 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 573 Phosphorus ppm ASTM D5185m 8 Zinc ppm ASTM D5185m 17834 Sulfur ppm ASTM D5185m 11 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m >20 <1 Potassium ppm ASTM D5185m >20 <1 FLUID DEGRADATION method limit/base current history1 history2 White Metal sc	Boron	ppm	ASTM D5185m		108		
Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 5 Phosphorus ppm ASTM D5185m 573 Zinc ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Barium	ppm	ASTM D5185m		0		
Magnesium ppm ASTM D5185m 2 Calcium ppm ASTM D5185m 5 Phosphorus ppm ASTM D5185m 573 Zinc ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 Sulfur ppm ASTM D5185m 15 <1	Molybdenum	ppm	ASTM D5185m		<1		
Calcium ppm ASTM D5185m 5 Phosphorus ppm ASTM D5185m 573 Zinc ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus ppm ASTM D5185m 573 Zinc ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m >1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 VISUAL method limit/base current history1 history2 White Metal scalar *Visual	Magnesium	ppm	ASTM D5185m		2		
Zinc ppm ASTM D5185m 8 Sulfur ppm ASTM D5185m 17834 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m >20 <1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE Yellow Metal scalar *Visual NONE NON	Calcium	ppm	ASTM D5185m		5		
Sulfur ppm ASTM D5185m 17834 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Phosphorus	ppm	ASTM D5185m		573		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Zinc	ppm	ASTM D5185m		8		
Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 <1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 VISUAL method limit/base current history1 history2 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 NORML NORML	Sulfur	ppm	ASTM D5185m		17834		
Sodium ppm ASTM D5185m 1 Potassium ppm ASTM D5185m >20 <1	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 VISUAL method limit/base current history1 history2 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 NORML NORML Appearance scalar *Visual NORML NORML Godor scalar	Silicon	ppm	ASTM D5185m	>15			
FLUID DEGRADATION method limit/base current history1 history2 Acid Number (AN) mg KOH/g ASTM D8045 1.01 VISUAL method limit/base current history1 history2 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 NORML NORML Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual NORML NORML	Sodium	ppm			1		
VISUAL method limit/base current history1 history2 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 NORML NORML Appearance scalar *Visual NORML NORML Codor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG	Potassium	ppm	ASTM D5185m	>20	<1		
VISUAL method limit/base current history1 history2 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 NORML NORML Appearance scalar *Visual NORML NORML Codor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
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 NORML NORML Appearance scalar *Visual NORML NORML Codor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG	Acid Number (AN)	mg KOH/g	ASTM D8045		1.01		
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 NORM NORML Appearance scalar *Visual NORML NORML Codor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG	VISUAL		method	limit/base	current	history1	history2
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 NEG		scalar					
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 NEG		scalar			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 NEG	·	scalar					
Sand/Dirtscalar*VisualNONENONEAppearancescalar*VisualNORMLNORMLOdorscalar*VisualNORMLNORMLEmulsified Waterscalar*VisualNEG		scalar					
Appearance scalar *Visual NORML NORML Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG		scalar					
Odor scalar *Visual NORML NORML Emulsified Water scalar *Visual NEG	Sand/Dirt	scalar					
Emulsified Water scalar *Visual NEG							
		scalar	*Visual	NORML			
Free Water scalar *Visual) NEG TERRICK PRESLEY MICAN		scalar	*Visual				
	Free Water	scalar	*Visual)	NEG	TERRICK PRES	SLEY MICAND



OIL ANALYSIS REPORT





Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10483012

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05853657

: TLC0001192

Received Diagnosed

: 22 May 2023 : 24 May 2023 Diagnostician : Jonathan Hester

Test Package : PLANT (Additional Tests: FT-IR, ICP-NewOil, KV100, VI)

US 29626 Contact: TERRICK PRESLEY terrick.presley@michelin.com T: (803)761-8053

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)

Report Id: MICAND [WUSCAR] 05853657 (Generated: 09/26/2023 10:41:16) Rev: 1

Contact/Location: TERRICK PRESLEY - MICAND

MICHELIN US 10

ANDERSON, SC

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