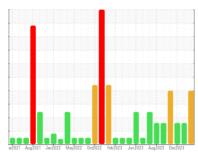


OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id
5073
Component
Gearbox
Fluid
SHELL OMALA 68 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Appearance is milky. There is a light concentration of water present in the oil. Free water present.

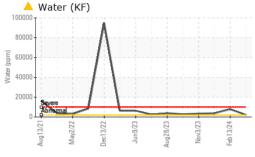
Fluid Condition

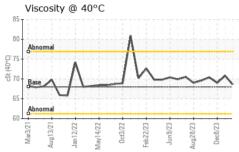
The oil is no longer serviceable due to the presence of contaminants.

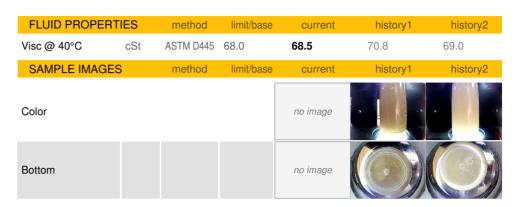
Sample Date			ar2021 Aug20	21 Jan 2022 May2022 Oct	2022 Feb2023 Jun2023 Aug2023	Dec2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info	Sample Number		Client Info		WC0891247	WC0840647	WC0840639
Dil Age	Sample Date		Client Info		13 Mar 2024	13 Feb 2024	08 Dec 2023
Client Info	Machine Age	hrs	Client Info		5582	5387	5096
Manual	Oil Age	hrs	Client Info		12	291	539
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >200 9 36 2 Chromium ppm ASTM D5185m >10 0 <1 0 Nickel ppm ASTM D5185m >10 0 <1 0 Silver ppm ASTM D5185m 0 <1 0 <1 Aluminum ppm ASTM D5185m 0 0 <1 0 Aluminum ppm ASTM D5185m >20 0 10 0 Lead ppm ASTM D5185m >20 5 20 4 Copper ppm ASTM D5185m >10 0 0 0 Copper ppm ASTM D5185m >0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 <td< th=""><th>Oil Changed</th><th></th><th>Client Info</th><th></th><th>Changed</th><th>Not Changd</th><th>Changed</th></td<>	Oil Changed		Client Info		Changed	Not Changd	Changed
Chromium	Sample Status				ABNORMAL	ABNORMAL	MARGINAL
Description	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	9	36	2
Description	Chromium	ppm	ASTM D5185m	>10	0	<1	0
Silver	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum ppm ASTM D5185m >25 <1 5 <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Titanium	ppm	ASTM D5185m		0	<1	0
December December	Silver	ppm	ASTM D5185m		0	0	<1
Description	Aluminum	ppm	ASTM D5185m	>25	<1	5	<1
ASTM D5185m	Lead	ppm	ASTM D5185m	>50	0	10	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 4 4 Magnesium ppm ASTM D5185m 0 12 11 Phosphorus ppm ASTM D5185m 0 12 11 Phosphorus ppm ASTM D5185m 250 139 279 Zince ppm ASTM D5185m 0 4 11 Phosphorus ppm ASTM D5185m 0 4 11 Phosphorus ppm ASTM D5185m 0 4 11 Sulfur ppm ASTM D5185m 0 0 4	Copper	ppm	ASTM D5185m	>200	5	20	4
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 4 4 Magnesium ppm ASTM D5185m 0 12 11 Phosphorus ppm ASTM D5185m 0 12 11 Phosphorus ppm ASTM D5185m 250 139 279 Zinc ppm ASTM D5185m 0 4 11 Phosphorus ppm ASTM D5185m 0 4 11 Phosphorus ppm ASTM D5185m 0 4 11 Sulfur ppm ASTM D5185m 0 0 4	Tin		ASTM D5185m	>10	<1	2	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 0 0 0	Cadmium		ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m		0	0	<1
Manganese ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <th>Molybdenum</th> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Molybdenum	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 4 4 Calcium ppm ASTM D5185m 0 12 11 Phosphorus ppm ASTM D5185m 250 139 279 Zinc ppm ASTM D5185m 0 4 11 Sulfur ppm ASTM D5185m 10705 8482 8702 CONTAMINANTS method limit/base current history1 history2 C	Manganese	ppm	ASTM D5185m		<1	<1	<1
Phosphorus ppm ASTM D5185m 250 139 279 Zinc ppm ASTM D5185m 0 4 11 Sulfur ppm ASTM D5185m 10705 8482 8702 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 50 5 12 4 Sodium ppm ASTM D5185m 50 5 12 4 Sodium ppm ASTM D5185m 1 0 0 0 Potassium ppm ASTM D5185m 20 0 0 0 0 Water % ASTM D5185m >20 0 0 0 0 0 Water % ASTM D5185m >20 0	Magnesium	ppm	ASTM D5185m		0	4	4
Description	Calcium	ppm	ASTM D5185m		0	12	11
Description	Phosphorus	ppm	ASTM D5185m		250	139	279
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >50 5 12 4 Sodium ppm ASTM D5185m >50 5 12 4 Potassium ppm ASTM D5185m >20 0 0 0 Vater % ASTM D6304 >0.2 0.217 0.783 0.376 ppm Water ppm ASTM D6304 >2000 2170 7830 3760 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Vellow Metal scalar *Visual NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE Poebris scalar *Visual NONE NONE NONE Poebris scalar *Visual NONE NONE NONE	Zinc	• •	ASTM D5185m		0	4	11
Solition	Sulfur		ASTM D5185m		10705	8482	8702
Sodium	CONTAMINANTS		method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 0 0 0 Mater % ASTM D6304 >0.2 △ 0.217 △ 0.783 △ 0.376 ppm Water ppm ASTM D6304 >2000 △ 2170 △ 7830 △ 3760 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Ddor scalar *Visual NORML NORML NORML NORML Dodor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 △ 0.2% 0.2% 0.2%	Silicon	ppm	ASTM D5185m	>50	5	12	4
Water % ASTM D6304 >0.2 ▲ 0.217 ▲ 0.783 ▲ 0.376 ppm Water ppm ASTM D6304 >2000 ▲ 2170 ▲ 7830 ▲ 3760 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML NORML Dodor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 ▲ 0.2% 0.2% 0.2%	Sodium	ppm	ASTM D5185m		1	0	0
Opm Water ppm ASTM D6304 >2000 ▲ 2170 ▲ 7830 ▲ 3760 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 MILKY NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	Potassium	ppm	ASTM D5185m	>20	0	0	0
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 NONE NONE NONE NONE Odor scalar *Visual NORML MILKY NORML NORML Debris Scalar *Visual NORML NORML NORML NORML NORML Debris Scalar *Visual NORML NORML NORML NORML NORML	Water	%	ASTM D6304	>0.2	<u> </u>	△ 0.783	△ 0.376
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 MILKY NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2%	ppm Water	ppm	ASTM D6304	>2000	2170	▲ 7830	△ 3760
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLMILKYNORMLNORMLDdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%0.2%	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE 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 MILKY NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	White Metal	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 MILKY NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2%	Yellow Metal	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 MILKY NORML NORML Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2%	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLMILKYNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLMILKYNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%0.2%	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 ▲ 0.2% 0.2% 0.2%	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 ▲ 0.2% 0.2% 0.2%	Appearance	scalar	*Visual	NORML	MILKY	NORML	NORML
Emulsified Water scalar *Visual >0.2 ▲ 0.2% 0.2% 0.2%	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water						
	Free Water	scalar	*Visual		2.0		NEG

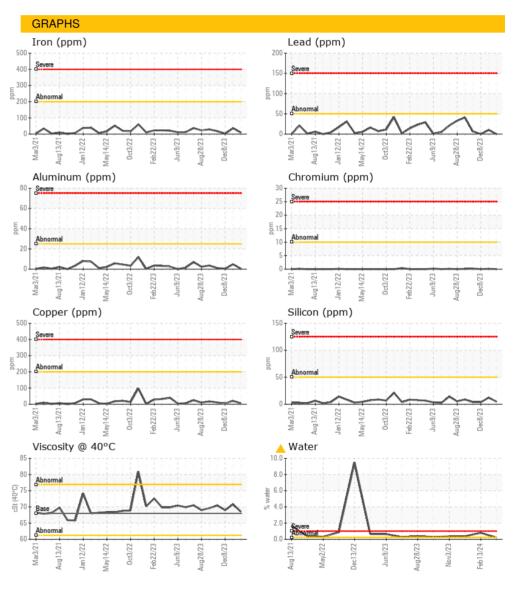


OIL ANALYSIS REPORT











Certificate 12367

Sample No.

Laboratory

: WC0891247 Lab Number : 06142531

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

: 08 Apr 2024 : 09 Apr 2024

P.O. BOX 158 MONCURE, NC US 27559

Unique Number : 10967339 Diagnosed : 11 Apr 2024 - Don Baldridge Test Package : MOB 1 (Additional Tests: KF)

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)

Contact: ROBBIE BOGAN robbiebogan@wakestonecorp.com T:

WAKE STONE CORPORATION-MONCURE

Report Id: WAKMON [WUSCAR] 06142531 (Generated: 04/12/2024 06:38:30) Rev: 1

Contact/Location: ROBBIE BOGAN - WAKMON

F: (919)776-1341