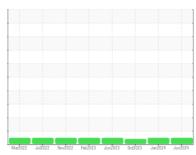


# **OIL ANALYSIS REPORT**

Sample Rating Trend







Machine Id

K-1
Component
Gearbox

SHELL OMALA S2 GX 220 (--- GAL)

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the oil

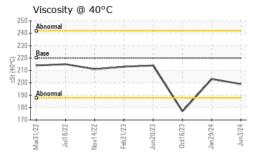
### **Fluid Condition**

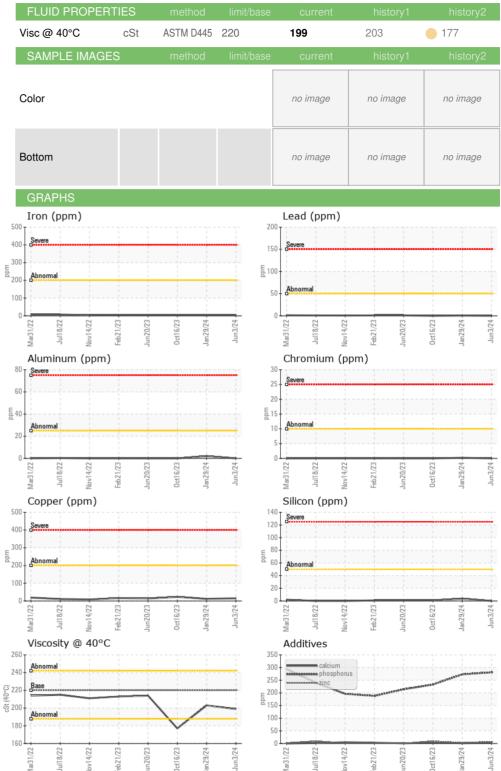
The condition of the oil is acceptable for the time in service.

Sample Number			Mar2022	Jul2022 Nov2022 Feb202	23 Jun2023 Oct2023 Jan202	4 Jun2024	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		WC0917255	WC0868174	WC0831565
Machine Age   hrs   Client Info   0   0   0   0   0   0   0   0   0			Client Info		03 Jun 2024	29 Jan 2024	16 Oct 2023
Oil Age         hrs         Client Info         0         0         0         0           Oil Changed         Client Info         N/A         N/A         N/A         N/A         N/A           Sample Status         NORMAL         NORMAL         ATTEN           CONTAMINATION         method         limit/base         current         history1         his           Water         WC Method         >0.2         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         his           Iron         ppm         ASTM D5185m         >200         3         4         4           Chromium         ppm         ASTM D5185m         >10         0         0         0           Chromium         ppm         ASTM D5185m         >10         0         0         0           Chromium         ppm         ASTM D5185m         >10         0         0         0           Silver         ppm         ASTM D5185m         >50         0         <1	•	hrs					
Contamer   Client Info							
NORMAL   NORMAL   ATTEN					N/A	N/A	N/A
Water         WC Method         >0.2         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         his           Iron         ppm         ASTM D5185m         >200         3         4         4           Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         >10         0         0         0           Titanium         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         >50         0         2         0           Lead         ppm         ASTM D5185m         >50         0         <1         0           Copper         ppm         ASTM D5185m         >50         0         <1         1           Cadadium         ppm         ASTM D5185m         >10         0         <1         ×1           ADITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0.0         0         <1         0					NORMAL	NORMAL	ATTENTION
WEAR METALS	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	3	4	4
Titanium	Chromium	ppm	ASTM D5185m	>10	0	<1	0
Silver	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum         ppm         ASTM D5185m         >25         0         2         0           Lead         ppm         ASTM D5185m         >50         0         <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m		0	0	0
Copper         ppm         ASTM D5185m         2200         15         12         23           Tin         ppm         ASTM D5185m         >10         0         <1	Aluminum		ASTM D5185m	>25	0	2	0
Tin	Lead	ppm	ASTM D5185m	>50	0	<1	0
Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         0         0         0         1           Barium         ppm         ASTM D5185m         0.0         0         <1         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0         0         1           Magnesium         ppm         ASTM D5185m         0.0         2         1         3           Magnesium         ppm         ASTM D5185m         0.0         2         1         3           Phosphorus         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         290         281         273         3         9           Sulfur         ppm         ASTM D5185m	Copper	ppm	ASTM D5185m	>200	15	12	23
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         his           Boron         ppm         ASTM D5185m         6.2         0         0         1           Barium         ppm         ASTM D5185m         0.0         0         <1	Tin	ppm	ASTM D5185m	>10	0	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0         <1	Boron	ppm	ASTM D5185m	6.2	0	0	1
Manganese         ppm         ASTM D5185m         0         < 1         2         17           Magnesium         ppm         ASTM D5185m         0         < 1         2         17           Calcium         ppm         ASTM D5185m         0.0         2         1         3           Phosphorus         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         3.8         7         3         9           Sulfur         ppm         ASTM D5185m         8167         10461         11093         6260           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         h	Barium	ppm	ASTM D5185m	0.0	0	<1	0
Magnesium         ppm         ASTM D5185m         0         <1         2         17           Calcium         ppm         ASTM D5185m         0.0         2         1         3           Phosphorus         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         3.8         7         3         9           CONTAMINANTS         method         limit/base         current         history1         his           CONTAMINANTS	Molybdenum	ppm	ASTM D5185m	0	0	0	0
Calcium         ppm         ASTM D5185m         0.0         2         1         3           Phosphorus         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         3.8         7         3         9           Sulfur         ppm         ASTM D5185m         8167         10461         11093         6260           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0           Potassium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         history1         his           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus         ppm         ASTM D5185m         290         281         273         233           Zinc         ppm         ASTM D5185m         3.8         7         3         9           Sulfur         ppm         ASTM D5185m         8167         10461         11093         6260           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0           Potassium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         history1         his           White Metal         scalar         *Visual         NONE         NONE         NONE           Vellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE	Magnesium	ppm	ASTM D5185m	0	<1	2	17
Zinc         ppm         ASTM D5185m         3.8         7         3         9           Sulfur         ppm         ASTM D5185m         8167         10461         11093         6260           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0           Potassium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         history1         his           White Metal         scalar         *Visual         NONE         NONE         NONE           Vellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE	Calcium	ppm	ASTM D5185m	0.0	2	1	3
Sulfur         ppm         ASTM D5185m         8167         10461         11093         6260           CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0           Potassium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         history1         his           White Metal         scalar         *Visual         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE           Silt         scalar         *Visual         NONE         NONE         NONE           Debris         scalar         *Visual         NONE         NONE         NONE           Sand/Dir	Phosphorus	ppm	ASTM D5185m	290	281	273	233
CONTAMINANTS         method         limit/base         current         history1         his           Silicon         ppm         ASTM D5185m         >50         0         4         1           Sodium         ppm         ASTM D5185m         >20         0         1         0         2           Potassium         ppm         ASTM D5185m         >20         0         1         0         0           VISUAL         method         limit/base         current         history1         his           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         sca	Zinc	ppm	ASTM D5185m	3.8	7	3	9
Soliticon	Sulfur	ppm	ASTM D5185m	8167	10461	11093	6260
Sodium         ppm         ASTM D5185m         <1         0         2           Potassium         ppm         ASTM D5185m         >20         0         1         0           VISUAL         method         limit/base         current         history1         his           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <b>0</b> 1 0  VISUAL method limit/base current history1 his  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 NORML NORML NORML NORML NORML  Demulsified Water scalar *Visual >0.2 NEG NEG NEG	Silicon	ppm	ASTM D5185m	>50	0	4	1
VISUAL method limit/base current history1 his 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 NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NOR	Sodium	ppm	ASTM D5185m		<1	0	2
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 NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NO	Potassium	ppm	ASTM D5185m	>20	0	1	0
Yellow Metal       scalar       *Visual       NONE       NONE       NONE       NONE         Precipitate       scalar       *Visual       NONE       NONE       NONE       NONE       NONE         Silt       scalar       *Visual       NONE       NORML	VISUAL		method	limit/base	current	history1	history2
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 NOFML Odor scalar *Visual NORML NORML NORML NORML NOFML Emulsified Water scalar *Visual >0.2 NEG NEG NEG	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 NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 NEG NEG NEG	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 N	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEG	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORML<	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NOF Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	• •	scalar	*Visual	NORML	NORML	NORML	NORML
F W.	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free water   scalar *Visual   NEG   NEG   NEG	Free Water	scalar	*Visual		NEG	NEG	NEG



# **OIL ANALYSIS REPORT**









Certificate 12367

Laboratory Sample No.

: WC0917255 Lab Number : 06199607 Unique Number : 11061730 Test Package : MOB 1

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 04 Jun 2024 **Tested** : 05 Jun 2024 Diagnosed

: 05 Jun 2024 - Wes Davis

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)

**UNITED TOOL & STAMPING** 

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