

OIL ANALYSIS REPORT



WATER

Machine Id **3480**

Component Gearbox Fluid SHELL OMALA S4 GX 220 (--- GAL)

DIAGNOSIS

A Recommendation

We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition.

🔺 Wear

Gear wear is indicated.

Contamination

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

Fluid Condition

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

		ec2020 Jan20	21 Feb2021 Mar2021 May2	021 Jun2021 Aug2021 Sep2021 Oc	12021 Nov202	
		method	limit/baco	current	history1	history?
			iiiiii/base			
Sample Number		Client Info		PCA0036293	PCA0036309	PCA0036301
Sample Date	la va	Client Info		18 NOV 2021	03 NOV 2021	27 Oct 2021
Machine Age	nrs	Client Info		05/3	0303	6205
Oil Age	1115	Client Info		U N/A	STTU N/A	0
Sampla Status		Cilent Inio				
Sample Status				ABNORMAL	ADNORIMAL	ADNORIVIAL
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<u> </u>	67	20
Chromium	ppm	ASTM D5185m	>10	4	1	<1
Nickel	ppm	ASTM D5185m		<1	<1	1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m		1	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	<1	<1
Lead	ppm	ASTM D5185m	>50	<1	<1	0
Copper	ppm	ASTM D5185m	>200	4	1	<1
Tin	ppm	ASTM D5185m	>10	0	0	<1
Antimony	ppm	ASTM D5185m		0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		24	16	7
Barium	ppm	ASTM D5185m		0	0	<1
Molybdenum	ppm	ASTM D5185m		2	<1	<1
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m		1	<1	0
Calcium	ppm	ASTM D5185m		30	12	0
Phosphorus	ppm	ASTM D5185m		429	429	401
Zinc	ppm	ASTM D5185m		8	0	0
Sulfur	ppm	ASTM D5185m		5223	5072	4647
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	25	13	6
Sodium	ppm	ASTM D5185m		0	0	<1
Potassium	ppm	ASTM D5185m	>20	0	<1	2
Water	%	ASTM D6304	>0.2	6 0.324	▲ 0.339	▲ 0.216
ppm Water	ppm	ASTM D6304	>2000	A 3240	▲ 3390	2 160
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.652	0.772	0.842



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					VISUAL		method	limit/bas	e current	history1	history2
					White Metal	scalar	*Visual	NONE	LIGHT	VLITE	NONE
					Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
					Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
					Silt	scalar	*Visual	NONE	NONE	NONE	MODER
					Debris	scalar	*Visual	NONE	LIGHT	VLITE	A MODER
				\sim	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
3/21.	24/21	1/21	4/21.	12/21	Appearance	scalar	*Visual	NORML	NORML	NORML	🔺 HAZY
May1	Junž	Aug1	Sep 1	0ct2	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
					Emulsified Water	scalar	*Visual	>0.2	6.2%	0.2%	NEG
					Free Water	scalar	*Visual		NEG	1 .0	1 .0
	_/		-		FLUID PROPE	ERTIES	method	limit/bas	e current	history1	history2
					Visc @ 40°C	cSt	ASTM D445	5 230	147	149	151.1
					SAMPLE IMAG	GES	method	limit/bas	e current	history1	history2
May13/21	Jun24/21	Aug11/21	Sep 14/21	0ct27/21	Color				no image	no image	no image
/	_	~	_		Bottom				no image	no image	no image
					GRAPHS						
					🔺 Iron (ppm)				Lead (ppm)		
					600 Severe				Severe		
21-	21	21	21	21	Abnormal				100 Abnormal		
lay13/	un24/	/11/gn	ep14/	0ct27/	0			_			
2	7	A	0,	-	Dec3/20 Jan14/2 Feb10/2	May13/2 Jun24/2	Aug 11/2 Sep 14/2	0ct27/2 Nov18/2	Dec3/20 Jan14/2 Feb10/2	Mar25/2 May13/2 Jun24/2	Aug 11/2 Sep 14/2 Oct27/2 Nov18/2
					Aluminum (ppm)				Chromium (ppm)	
		_			Severe				30 Severe		
					E 50 Abnormal				Abnormal		
					0				0		
					c3/20 14/21 10/21 25/21	13/21	11/21	27/21	c3/20 14/21 10/21	25/21 13/21 24/21	11/21 14/21 27/21
					Jan Feb	May	Aug	Nov	Jan Feb	Mar May Jun	Aug Sep Nov
21	21	21-	21-	21	Copper (ppm)				Silicon (ppm)	
lay13,	lun24,	ug11	Sep 14,	0ct27/	400 Severe				100 Severe		
2	,	4			Abnormal				50 Abnormal		
)ec3/2(an 14/2 eb 10/2 lar25/2	ay13/2 ın24/2	ag 11/2 ep 14/2	lct27/2 ov18/2)ec3/2(an 14/2 eb 10/2	lar25/2 ay13/2 ın24/2	ug11/2 ep14/2 lct27/2 ov18/2
					Uiscosity @ 40°C	Σ'n	S A	0 2	▲ Water	2 2 7	A S N
					300 Abnormal				1.5		
					€ 200 - Abnormal	+					
					3			, <u> </u>	Abnormal		
					c3/20	24/21.	11/21	18/21	12//21	w3/21-	18/21-
					Jan Feb	May	Aug	Nov	00	Nc	Nov
Certifica To dis	te L2367	this s	Labo Samj Lab I Uniqu Test samp	ratory ple No. Numbe Numb Packag le repoi	: WearCheck USA - : PCA0036293 r : 05407579 er : 9751742 ge : MOB 2 (Additional t, contact Customer Sent t are outside of the ISO	501 Madi Received Diagnos Diagnos Tests: Ki vice at 1-8	son Ave., C d : 23 ed : 25 tician : Do =) 300-237-136	ary, NC 275 Nov 2021 Nov 2021 Nov 2021 On Baldridge	513 9 dirk.	BAUE 3001 Con schafer@baue	R FOUNDATION EVERCANE RD CLEWISTON, FL US 33440 tact: Dirk Schafer rfoundations.com T: (562)204-4302

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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