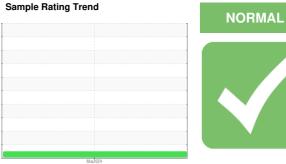


OIL ANALYSIS REPORT

Autoneum - A09100 A2403088

Component **Hydraulic System**

AW HYDRAULIC OIL ISO 46 (--- GAL)



Recommendation

We certify this oil to be clean and dry.

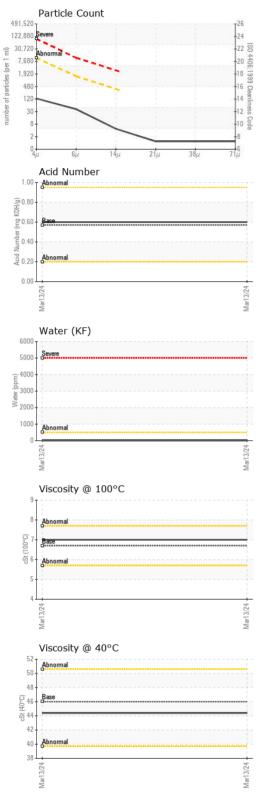
Contamination

Silicon ppm levels are abnormally high.

				Mar2024		
SAMPLE INFORMA	NOITA	method	limit/base	current	history1	history2
Batch #		Client Info		2024 02 0480		
Department		Client Info		Production		
Production Stage		Client Info		Final		
Sent to WC		Client Info		03/13/2024		
Sample Number		Client Info		E30001682		
Sample Date		Client Info		13 Mar 2024		
Machine Age	hrs	Client Info		0		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		N/A		
Sample Status				NORMAL		
WEAR METALS		method	limit/base	current	history1	history2
Iron p	ppm	ASTM D5185(m)	>20	12		
Chromium	ppm	ASTM D5185(m)	>20	<1		
Nickel	ppm	ASTM D5185(m)	>20	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)		0		
Aluminum	ppm	ASTM D5185(m)	>20	1		
Lead	ppm	ASTM D5185(m)	>20	5		
Copper	ppm	ASTM D5185(m)	>20	13		
Tin p	ppm	ASTM D5185(m)	>20	0		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium p	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	5	<1		
Barium	ppm	ASTM D5185(m)	5	0		
Molybdenum	ppm	ASTM D5185(m)	5	<1		
Manganese p	ppm	ASTM D5185(m)		0		
Magnesium	ppm	ASTM D5185(m)	25	36		
Calcium	ppm	ASTM D5185(m)	200	71		
Phosphorus	ppm	ASTM D5185(m)	300	501		
Zinc	ppm	ASTM D5185(m)	370	489		
Sulfur	ppm	ASTM D5185(m)	2500	1911		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	43		
	ppm	ASTM D5185(m)		2		
	ppm	ASTM D5185(m)	>20	1		
Water	%	ASTM D6304*	>0.05	0.001		
ppm Water	ppm	ASTM D6304*	>500	7		
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OIL ANALYSIS REPORT



Particles > 4μm	FLUID OLFANILINI	TOO	ام مالم مدر	limit/base		la i a ta un ce	hiotow.O
Particles >6μm		ESS	method		current	history1	history2
Particles >14μm ASTM D7647 >320 4 Particles >21μm ASTM D7647 >80 1 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 1 Oil Cleanliness ISO 4406 (c) >20/17/15 14/12/9 FLUID DEGRADATION method limit/base current history1 history1 Acid Number (AN) mg KOHg ASTM D974* 0.57 0.60 FLUID DEGRADATION method limit/base current history1 history1 Acid Number (AN) mg KOHg ASTM D974* 0.57 0.60 VISUAL method limit/base current history1 history1 White Metal scalar Visual* NONE NONE Yellow Metal scalar Visual* NONE NONE							
Particles >21μm					35		
Particles > 38μm	·				-		
Particles >71µm					-		
Oil Cleanliness ISO 4406 (c) >20/17/15 14/12/9 FLUID DEGRADATION method limit/base current history1 history1 Acid Number (AN) mg KOH/g ASTM D974* 0.57 0.60 VISUAL method limit/base current history1 history1 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* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsifi	·				-		
FLUID DEGRADATION method limit/base current history1 history1 Acid Number (AN) mg KOHlg ASTM D974* 0.57 0.60 VISUAL method limit/base current history1 history1 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* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* NEG Free Water scalar					•		
Acid Number (AN) mg KOH/g ASTM D974* 0.57 0.60 VISUAL method limit/base current history1 history1 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* NONE NONE Appearance scalar Visual* NORML NORML Appearance scalar Visual* NORML NORML Odor scalar Visual* >0.05 NEG Free Water scalar Visual* NEG Visc @ 40°C cSt ASTM D7279(m) <td< td=""><td>Oil Cleanliness</td><td></td><td>ISO 4406 (c)</td><td>>20/17/15</td><td>14/12/9</td><td></td><td></td></td<>	Oil Cleanliness		ISO 4406 (c)	>20/17/15	14/12/9		
VISUAL method limit/base current history1 history1 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* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* NOB NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc@ 100°C cSt ASTM D2270*	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* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* NORML NORML Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.60		
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* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* NORML NORML Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES metho	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* >0.05 NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method<	White Metal	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 Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Yellow Metal	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 Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Precipitate	scalar	Visual*	NONE	NONE		
Sand/Dirt scalar Visual* NONE NONE Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.05 NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 6.7 7.0 Visc @ 100°C cSt ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Silt	scalar	Visual*	NONE	NONE		
Appearance scalar Visual* NORML NORML Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.05 NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Debris	scalar	Visual*	NONE	NONE		
Odor scalar Visual* NORML NORML Emulsified Water scalar Visual* >0.05 NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Sand/Dirt	scalar	Visual*	NONE	NONE		
Emulsified Water scalar Visual* >0.05 NEG Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Appearance	scalar	Visual*		NORML		
Free Water scalar Visual* NEG FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERTIES method limit/base current history1 history1 Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Emulsified Water	scalar	Visual*	>0.05	NEG		
Visc @ 40°C cSt ASTM D7279(m) 46 44.4 Visc @ 100°C cSt ASTM D7279(m) 6.7 7.0 Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history1	Free Water	scalar	Visual*		NEG		
Visc @ 100°C	FLUID PROPERT	IES	method	limit/base	current	history1	history2
Viscosity Index (VI) Scale ASTM D2270* 97 115 SAMPLE IMAGES method limit/base current history1 history	Visc @ 40°C	cSt	ASTM D7279(m)	46	44.4		
SAMPLE IMAGES method limit/base current history1 history	Visc @ 100°C	cSt	ASTM D7279(m)	6.7	7.0		
	Viscosity Index (VI)	Scale	ASTM D2270*	97	115		
	SAMPLE IMAGES		method	limit/base	current	history1	history2
Color no image no image	Color					no image	no image
Bottom no image no image	Bottom					no image	no image

: 15 Mar 2024

: 15 Mar 2024

: 18 Mar 2024 - Tatiana Sorkina



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No.

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : E30001682 Lab Number : 02622349

Unique Number : 5747468

Received **Tested** Diagnosed

Test Package: IND 2 (Additional Tests: KF, KV100, VI) Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

To discuss this sample report, contact Customer Service at 1-905-372-2251.

Validity of results and interpretation are based on the sample and information as supplied.

Environmental 360 Solutions Ltd.

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