

OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



QC230213IND2

Component

Hydraulic System

AW HYDRAULIC OIL ISO 68 (--- GAL)

DIAGNOSIS

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

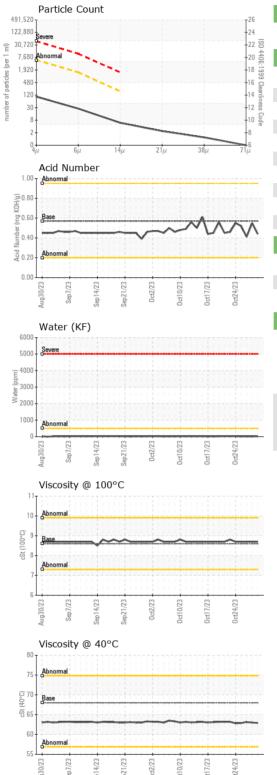
Fluid Condition

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

2/2023 Smp2/2023 Smp2/2023 Oct2/2023 Oct2/2023 Oct2/2023 Oct2/2023 Oct2/2023									
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2			
Sample Number		Client Info		WC0865597	WC0865594	WC0865593			
Sample Date		Client Info		30 Oct 2023	27 Oct 2023	26 Oct 2023			
Machine Age	hrs	Client Info		0	0	0			
Oil Age	hrs	Client Info		0	0	0			
Oil Changed		Client Info		N/A	N/A	N/A			
Sample Status				NORMAL	NORMAL	NORMAL			
WEAR METALS		method	limit/base	current	history1	history2			
Iron	ppm	ASTM D5185(m)	>20	0	0	0			
Chromium	ppm	ASTM D5185(m)	>20	0	0	0			
Nickel	ppm	ASTM D5185(m)	>20	<1	0	0			
Titanium	ppm	ASTM D5185(m)		0	0	0			
Silver	ppm	ASTM D5185(m)		<1	<1	<1			
Aluminum	ppm	ASTM D5185(m)	>20	0	0	0			
Lead	ppm	ASTM D5185(m)	>20	0	<1	1			
Copper	ppm	ASTM D5185(m)	>20	<1	<1	<1			
Tin	ppm	ASTM D5185(m)	>20	0	0	0			
Antimony	ppm	ASTM D5185(m)		0	0	0			
Vanadium	ppm	ASTM D5185(m)		0	0	0			
Beryllium	ppm	ASTM D5185(m)		0	0	0			
Cadmium	ppm	ASTM D5185(m)		0	0	0			
ADDITIVES		method	limit/base	current	history1	history2			
Boron	ppm	ASTM D5185(m)	5	<1	<1	<1			
Boron Barium	ppm ppm	ASTM D5185(m) ASTM D5185(m)		<1 <1	<1 <1	<1 <1			
		. ,							
Barium	ppm	ASTM D5185(m)	5	<1	<1	<1			
Barium Molybdenum	ppm ppm	ASTM D5185(m) ASTM D5185(m)	5	<1 0	<1 0	<1 0			
Barium Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5	<1 0 0	<1 0 0	<1 0 0			
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25	<1 0 0 <1	<1 0 0 0	<1 0 0 0			
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200	<1 0 0 0 <1 42	<1 0 0 0 0 42	<1 0 0 0 0 42			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	5 5 25 200 300	<1 0 0 0 <1 42 324	<1 0 0 0 0 42 327	<1 0 0 0 0 42 328			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370	<1 0 0 0 <1 42 324 416	<1 0 0 0 0 42 327 410	<1 0 0 0 0 42 328 406			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370	<1 0 0 0 <1 42 324 416 674	<1 0 0 0 0 42 327 410 680	<1 0 0 0 0 42 328 406 696			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500	<1 0 0 <1 42 324 416 674	<1 0 0 0 42 327 410 680 <1	<1 0 0 0 42 328 406 696 <1			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500	<1 0 0 <1 42 324 416 674 <1	<1 0 0 0 42 327 410 680 <1	<1 0 0 0 42 328 406 696 <1			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500	<1 0 0 0 <1 42 324 416 674 <1 current	<1 0 0 0 42 327 410 680 <1 history1	<1 0 0 0 42 328 406 696 <1 history2			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500 limit/base >15	<1 0 0 <1 42 324 416 674 <1 current 0 0	<1 0 0 0 42 327 410 680 <1 history1 0	<1 0 0 0 42 328 406 696 <1 history2 0			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500 limit/base >15	<1 0 0 0 <1 42 324 416 674 <1 current	<1 0 0 0 42 327 410 680 <1 history1 0 0	<1 0 0 0 42 328 406 696 <1 history2 0 <1			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m)	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2	<1 0 0 0 42 327 410 680 <1 history1 0 0 0 0.001 13.6	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304*	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500 limit/base	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2 current	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001 13.6 history1	<1 0 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4 history2			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D6304*	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500 limit/base >5000	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2 current 89	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001 13.6 history1 71	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4 history2 54			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* method ASTM D7647 ASTM D7647	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500 limit/base >5000 >1300 >160	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2 current 89 24	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001 13.6 history1 71 24	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4 history2 54 18			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* method ASTM D7647 ASTM D7647 ASTM D7647	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500 limit/base >5000 >1300 >160	<1 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2 current 89 24 5	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001 13.6 history1 71 24 5	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4 history2 54 18 4			
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D6304* ASTM D6304* ASTM D6304* ASTM D7647 ASTM D7647 ASTM D7647	5 5 25 200 300 370 2500 limit/base >15 >20 >0.05 >500 limit/base >160 >40	<1 0 0 0 <1 42 324 416 674 <1 current 0 0 0 0.002 23.2 current 89 24 5 2	<1 0 0 0 42 327 410 680 <1 history1 0 0 0.001 13.6 history1 71 24 5	<1 0 0 0 42 328 406 696 <1 history2 0 0 <1 0.001 13.4 history2 54 18 4 1			



OIL ANALYSIS REPORT



FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.57	0.44	0.55	0.41
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	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	68	62.9	63.0	63.1
Visc @ 100°C	cSt	ASTM D7279(m)	8.6	8.7	8.7	8.7
Viscosity Index (VI)	Scale	ASTM D2270*	96	111	110	110
SAMPLE IMAGES m		method	limit/base	current	history1	history2
Color			1			
Bottom						(64
Dottom						



CALA ISO 17025:2017 Accredited

Laboratory Sample No. Lab Number **Unique Number**

: WC0865597

: 5669755

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 WearCheck Quality Control Sample Results Received : 02592676

Diagnosed : 31 Oct 2023 Diagnostician : Wes Davis Test Package : IND 2 (Additional Tests: KF, KV100, VI)

: 30 Oct 2023

Burlington, ON Contact: Dorian Anderson

> dorian.anderson@wearcheck.com T: (289)291-4652 F: (905)569-8605

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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