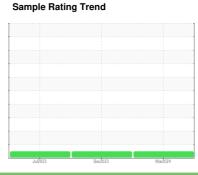


OIL ANALYSIS REPORT

ROTO XTEND **ATLAS COPCO WUX419621 - QUALA RAIL**

Component

Compressor





Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

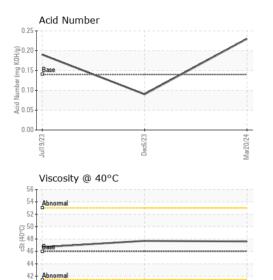
Fluid Condition

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

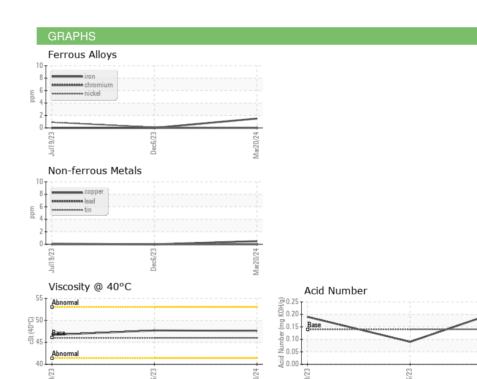
Sample Number Client Info UCH06132198 UCH06046289 UCH069176 Sample Date Client Info 20 Mar 2024 06 Dec 2023 19 Jul 2023 Machine Age hrs Client Info 9224 4968 3343 343 34968 Oil Age hrs Client Info O Not Changd Not Changd Not Changd Not Changd Not Changd NorMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL OONTAMINATION method limit/base current history1 history2 history3 history3 history3 history4 history4 history4 history4 history5 history5			Ju	1000	DOCENES MINISTER		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 9224 4968 3343 Oil Age hrs Client Info 0 4968 0 Oil Changed Client Info Not Changd	Sample Number		Client Info		UCH06132198	UCH06046289	UCH05917668
Oil Age hrs Client Info 0 4968 0 Oil Changed Client Info Not Changd NormAL NormAll	Sample Date		Client Info		20 Mar 2024	06 Dec 2023	19 Jul 2023
Oil Changed Sample Status Client Info Not Changd NORMAL	Machine Age	hrs	Client Info		9224	4968	3343
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2	Oil Age	hrs	Client Info		0	4968	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 2 0 0 Chromium ppm ASTM D5185m >50 0 0 0 Nickel ppm ASTM D5185m >5 0 0 0 1 1 Silver ppm ASTM D5185m 0 0 0 0 1 Silver ppm ASTM D5185m >65 0 0 0 0 Aluminum ppm ASTM D5185m >65 0 0 0 0 Lead ppm ASTM D5185m >65 <1 0 0 1 Lead ppm ASTM D5185m >10 0 0 0 1 Capper	Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 2 0 0 Chromium ppm ASTM D5185m >5 0 0 0 Nickel ppm ASTM D5185m 0 0 <1	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >50 2 0 0 Chromium ppm ASTM D5185m 0 0 0 0 Nickel ppm ASTM D5185m 0 0 1 <1 Titanium ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >65 0 0 0 Lead ppm ASTM D5185m >65 <1 0 0 Copper ppm ASTM D5185m >65 <1 0 <1 Tin ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2<	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium ppm ASTM D5185m >5 0 0 0 Nickel ppm ASTM D5185m 0 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	2	0	0
Titanium ppm ASTM D5185m 0 0 <1 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >15 1 0 0 Lead ppm ASTM D5185m >65 0 0 0 Copper ppm ASTM D5185m >65 <1	Chromium	ppm	ASTM D5185m	>5	0	0	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >15 1 0 0 Lead ppm ASTM D5185m >65 0 0 0 Copper ppm ASTM D5185m >65 <1 0 <1 Tin ppm ASTM D5185m 0 0 0 <1 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m	Nickel	ppm	ASTM D5185m		0	<1	<1
Aluminum ppm ASTM D5185m >15 1 0 0 Lead ppm ASTM D5185m >65 0 0 0 Copper ppm ASTM D5185m >65 <1	Titanium	ppm	ASTM D5185m		0	0	<1
Lead ppm ASTM D5185m >65 0 0 0 Copper ppm ASTM D5185m >65 <1 0 <1 Tin ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 125	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >65 <1 0 <1 Tin ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 <1	Aluminum	ppm	ASTM D5185m	>15	1	0	0
Tin ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 3 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 0 0 0 Phosphorus ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONT	Lead	ppm	ASTM D5185m	>65	0	0	0
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 0	Copper	ppm	ASTM D5185m	>65	<1	0	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 0	Tin	ppm	ASTM D5185m	>10	0	0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1	Vanadium	ppm	ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 0 0 Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 3 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Boron	ppm	ASTM D5185m		0	0	0
Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Barium	ppm	ASTM D5185m		3	0	0
Magnesium ppm ASTM D5185m 0 0 0 Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Molybdenum	ppm	ASTM D5185m		0	0	0
Calcium ppm ASTM D5185m 0 0 0 Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus ppm ASTM D5185m 47 11 39 Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m 4 0 0 Potassium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Magnesium	ppm	ASTM D5185m		0	0	0
Zinc ppm ASTM D5185m 112 4 3 Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m 4 0 0 Potassium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Calcium	ppm	ASTM D5185m		0	0	0
Sulfur ppm ASTM D5185m 125 61 56 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1	Phosphorus	ppm	ASTM D5185m		47	11	39
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 0 <1	Zinc	ppm	ASTM D5185m		112	4	3
Silicon ppm ASTM D5185m >35 0 <1 0 Sodium ppm ASTM D5185m 4 0 0 Potassium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Sulfur	ppm	ASTM D5185m		125	61	56
Sodium ppm ASTM D5185m 4 0 0 Potassium ppm ASTM D5185m >20 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	}	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 4 0 0 Potassium ppm ASTM D5185m >20 0 0 0 0 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>35	0	<1	0
FLUID DEGRADATION method limit/base current history1 history2	Sodium		ASTM D5185m		4	0	0
	Potassium		ASTM D5185m	>20	0	0	0
Acid Number (AN) mg KOH/g ASTM D8045 0.14 0.23 0.09 0.19	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.14	0.23	0.09	0.19



OIL ANALYSIS REPORT



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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	47.6	47.7	46.7
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color					. 6	







Laboratory Sample No. Lab Number : 06132198 Unique Number : 10951663

: UCH06132198

Bottom

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

Received : 28 Mar 2024 **Tested** : 29 Mar 2024

Diagnosed : 02 Apr 2024 - Angela Borella

AIR SPECIALTY & EQUIPMENT COMPANY

2814 EAST P ST DEER PARK, TX

US 77536 Contact: Brandon Schmill Bschmill@airspecialty.com

Test Package : IND 2 Certificate L2367 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)

T:

F: