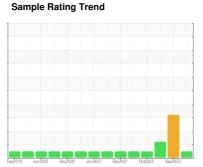


OIL ANALYSIS REPORT

ÜLTRA COOLANT VL1112U13051 - CANADIAN PACIFIC RAILROAD

Component Compressor





DIAGNOSIS

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

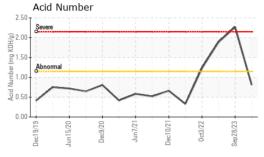
Fluid Condition

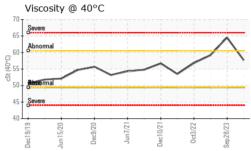
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sample Number Client Info UCH06075972 UCH05983761 UCH058836 Cample Date Client Info 25 Jan 2024 28 Sep 2023 04 Apr 2024 0731 45539 074 Apr 2025 074 Apr 2025	CAMPLE INFORM	AATION		11	- VVIII-	la factor and	la la la ma
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 52571 49731 45539 Oil Age hrs Client Info 2900 0 4000 Oil Changed Client Info Not Changd Changed Not Changed Sample Status Normal Normal ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 Water WC Method >0.1 NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >0 0 0 0 Silver ppm ASTM D5185m >25 2 <1	Sample Number		Client Info		UCH06075972	UCH05983761	UCH05836807
Oil Age hrs Client Info 2900 0 4000 Oil Changed Client Info Not Changed Changed Not Changed Sample Status Nemath Normal ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history1 WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Lead ppm ASTM D5185m 0 0 0 0 Copper ppm ASTM D5185m >50 1 <1	Sample Date		Client Info		25 Jan 2024	28 Sep 2023	04 Apr 2023
Oil Changed Sample Status Client Info Not Changd NORMAL Changed ABNORMAL Not Changed ABNORMAL ABNORMAL ABNORMAL ABNORMAL Not Changed ABNORMAL ABNORMAL ABNORMAL Not Changed AB	Machine Age	hrs	Client Info		52571	49731	45539
NORMAL ABNORMAL ABNORMAL ABNORMAL ABNORMAL CONTAMINATION method limit/base current history1 history	Oil Age	hrs	Client Info		2900	0	4000
CONTAMINATION method limit/base current history1 history1 Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1	Oil Changed		Client Info		Not Changd	Changed	Not Changd
Water WC Method >0.1 NEG NEG NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m >25 2 -1 0 Aluminum ppm ASTM D5185m >25 2 -1 0 Lead ppm ASTM D5185m >25 -1 0 0 Copper ppm ASTM D5185m >50 1 <1 1 Tin ppm ASTM D5185m >15 <1 1 <1 Vanadium ppm ASTM D5185m 0 0 0 0	Sample Status				NORMAL	ABNORMAL	ABNORMAL
WEAR METALS method limit/base current history1 nistory1 Iron ppm ASTM D5185m >50 0 0 0 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m 0 0 0 0 Silver ppm ASTM D5185m 0 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1 0 0 Aluminum ppm ASTM D5185m >25 2 <1 0 0 Lead ppm ASTM D5185m >25 2 <1 0 0 Copper ppm ASTM D5185m >50 1 <1 1 1 Tin ppm ASTM D5185m >15 <1 1 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 <1 <t< th=""><th colspan="2">CONTAMINATION</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	CONTAMINATION		method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m <1 <1 0 Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1 0 Lead ppm ASTM D5185m >25 2 <1 0 Copper ppm ASTM D5185m >50 1 <1 1 Tin ppm ASTM D5185m >50 1 <1 1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 <1 ADDITIVES method limit/base current history1 history1 history1 Boron ppm ASTM D5185m 0 0 0 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>50	0	0	0
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Silver ppm ASTM D5185m 0 0 0 Aluminum ppm ASTM D5185m >25 2 <1 0 Lead ppm ASTM D5185m >25 2 <1 0 0 Copper ppm ASTM D5185m >50 1 <1 1 <1 1 Tin ppm ASTM D5185m >50 1 <1 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Nickel	ppm	ASTM D5185m		<1	<1	0
Aluminum ppm ASTM D5185m >25 2 <1 0 Lead ppm ASTM D5185m >25 <1	Titanium	ppm	ASTM D5185m		0	0	0
Lead	Silver	ppm	ASTM D5185m		0	0	0
Copper ppm ASTM D5185m >50 1 <1 1 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>25	2	<1	0
Tin ppm ASTM D5185m >15 <1 1 <1 <1	Lead	ppm	ASTM D5185m	>25	<1	0	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 500 576 121 306 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 20 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >20 8 13 9 <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>50</td> <th>1</th> <td><1</td> <td>1</td>	Copper	ppm	ASTM D5185m	>50	1	<1	1
Cadmium ppm ASTM D5185m 0 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 500 576 121 306 Molybdenum ppm ASTM D5185m 0 0 0 0 Magnesee ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >20 8 13 9	Tin	ppm	ASTM D5185m	>15	<1	1	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 500 576 121 306 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 2 0 2 Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Sodium ppm ASTM D5185m >20 8 13 <td>Vanadium</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>0</th> <td>0</td> <td>0</td>	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 500 576 121 306 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 2 0 2 Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current <t< td=""><td>Cadmium</td><td>ppm</td><td>ASTM D5185m</td><td></td><th>0</th><td>0</td><td><1</td></t<>	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium ppm ASTM D5185m 500 576 121 306 Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 0 Manganese ppm ASTM D5185m 0 2 1 <1 0 Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Boron	ppm	ASTM D5185m	0	0	0	0
Manganese ppm ASTM D5185m <1 <1 0 Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Barium	ppm	ASTM D5185m	500	576	121	306
Magnesium ppm ASTM D5185m 0 2 0 2 Calcium ppm ASTM D5185m 0 5 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Molybdenum	ppm	ASTM D5185m	0	0	0	0
Calcium ppm ASTM D5185m 0 4 Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1	Manganese	ppm	ASTM D5185m		<1	<1	0
Phosphorus ppm ASTM D5185m 20 3 2 3 Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m 62 104 101 Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Magnesium	ppm	ASTM D5185m	0	2	0	2
Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m 62 104 101 Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Calcium		ASTM D5185m	0	5	0	4
Zinc ppm ASTM D5185m 0 4 0 8 Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1	Phosphorus		ASTM D5185m	20		2	3
Sulfur ppm ASTM D5185m 200 350 398 387 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 1 1 <1	Zinc		ASTM D5185m	0	4	0	8
Silicon ppm ASTM D5185m >25 1 1 <1 Sodium ppm ASTM D5185m 62 104 101 Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history1	Sulfur	ppm	ASTM D5185m	200	350	398	387
Sodium ppm ASTM D5185m 62 104 101 Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history	CONTAMINANTS	;	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 62 104 101 Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>25	1	1	<1
Potassium ppm ASTM D5185m >20 8 13 9 FLUID DEGRADATION method limit/base current history1 history	Sodium		ASTM D5185m		62	104	101
·				>20	-		
Acid Number (AN) mg KOH/g ASTM D8045 0.81 ▲ 2.27 ▲ 1.89	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.81	△ 2.27	▲ 1.89



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	MODER	NONE	MODER
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	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

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Visc @ 40°C	cSt	ASTM D445	49.4	57.7	▲ 64.5	59.2

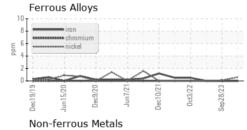
SAMPLE IMAGES

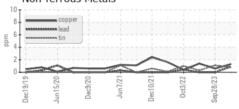
Color

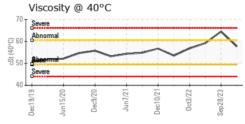
Bottom

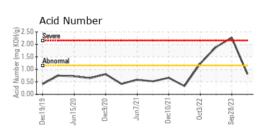
















Certificate L2367

Laboratory Sample No. Lab Number Test Package : IND 2

Unique Number

: UCH06075972 : 06075972 : 10858063

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

: 31 Jan 2024 : 02 Feb 2024 Diagnostician : Don Baldridge

US 61265 Contact: KEVIN DESPOT kevind@a-l-lequipment.com

A-L-L EQUIPMENT INC

204 38TH ST

MOLINE, IL

T: (815)877-7000 F: (309)762-9950

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)