

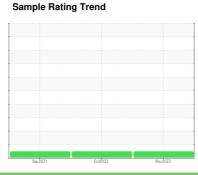
MASS-46

## **OIL ANALYSIS REPORT**

# **QUINCY CAI921154 - ROCKFORD**

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 component.

## **Fluid Condition**

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

Sample Number   Client Info   UCH06029489   UCH05674391   UCH0536255   Sample Date   Client Info   28 Nov 2023   18 Oct 2022   28 Sep 202   28 Sep 202   Machine Age   hrs   Client Info   13599   10687   8756   Oil Age   hrs   Client Info   3201   3484   1600   Oil Changed   Changed   N/A   NORMAL   NORMAL			S <sub>90</sub> 2021 Oct2022 Nov2023						
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2		
Machine Age         hrs         Client Info         13599         10687         8756           Oil Age         hrs         Client Info         3201         3484         1600           Oil Changed         Client Info         Changed         Changed         N/A           Sample Status         NORMAL         NORMAL         NORMAL         NORMAL           CONTAMINATION         method         limit/base         current         history1         history1           Wear Metar         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         0         <1           Iron         ppm         ASTM D5185m         >50         0         0         <1           Iron         ppm         ASTM D5185m         >10         0         0         <1           Iron         ppm         ASTM D5185m         >10         0         0         <1           Iron         ppm         ASTM D5185m         0         0         0         0           Silver         ppm	Sample Number		Client Info		UCH06029489	UCH05674391	UCH05362950		
Oil Age         hrs         Client Info         3201         3484         1600           Oil Changed         Client Info         Changed         Changed         N/A           Sample Status         Client Info         Changed         Changed         N/A           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         >0         0         <1           Chromium         ppm         ASTM D5185m         >10         <1         0         0           Nickel         ppm         ASTM D5185m         0         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >50         <1         <1         <1         <1           Lead	Sample Date		Client Info		28 Nov 2023	18 Oct 2022	28 Sep 2021		
Oil Changed Sample Status         Client Info         Changed NORMAL         Changed NORMAL         N/A NORMAL         N/A NORMAL           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         <1           Chromium         ppm         ASTM D5185m         >10         <1         0         0           Nickel         ppm         ASTM D5185m         >0         0         0         <1           Silver         ppm         ASTM D5185m         >25         <1         0         2           Aluminum         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >50         <1         <1         <1         <1           Tin         ppm         ASTM D5185m         >50         <1         <1         <1         <1         <1         <1         <1         <1         <	Machine Age	hrs	Client Info		13599	10687	8756		
NORMAL   NORMAL   NORMAL   NORMAL	Oil Age	hrs	Client Info		3201	3484	1600		
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         <1           Chromium         ppm         ASTM D5185m         >10         <1         0         0           Nickel         ppm         ASTM D5185m         0         0         0         <1           Titanium         ppm         ASTM D5185m         >25         <1         0         0           Aluminum         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >50         <1         <1         <1         <1           Lead         ppm         ASTM D5185m         >50         <1         <1         <1         <1           Copper         ppm         ASTM D5185m         >15         0         0         0           Vanadium         ppm         ASTM D5185m         0         0	Oil Changed		Client Info		Changed	Changed	N/A		
Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         0         0         0         <1           Nickel         ppm         ASTM D5185m         0         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         0           Silver         ppm         ASTM D5185m         >25         <1         0         0           Aluminum         ppm         ASTM D5185m         >25         <1         0         0           Lead         ppm         ASTM D5185m         >25         <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	Sample Status				NORMAL	NORMAL	NORMAL		
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         0         <1           Chromium         ppm         ASTM D5185m         >10         <1         0         0           Nickel         ppm         ASTM D5185m         0         0         0         <1           Titanium         ppm         ASTM D5185m         0         0         0         0           Aluminum         ppm         ASTM D5185m         25         <1         0         2           Lead         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >50         <1         <1         <1         <1           Lead         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	CONTAMINATION	١	method	limit/base	current	history1	history2		
Iron	Water		WC Method	>0.1	NEG	NEG	NEG		
Chromium         ppm         ASTM D5185m         >10         <1	WEAR METALS		method	limit/base	current	history1	history2		
Nickel	Iron	ppm	ASTM D5185m	>50	0	0	<1		
Titanium         ppm         ASTM D5185m         0         0         0           Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >25         0         0         0           Copper         ppm         ASTM D5185m         >50         <1         <1         <1           Tin         ppm         ASTM D5185m         >50         <1         <1         <1           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history           Boron         ppm         ASTM D5185m         0         0         <1           Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm <t< th=""><td>Chromium</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;10</td><th>&lt;1</th><td>0</td><td>0</td></t<>	Chromium	ppm	ASTM D5185m	>10	<1	0	0		
Silver         ppm         ASTM D5185m         0         0         0           Aluminum         ppm         ASTM D5185m         >25         <1         0         2           Lead         ppm         ASTM D5185m         >25         0         0         0           Copper         ppm         ASTM D5185m         >50         <1         <1         <1           Tin         ppm         ASTM D5185m         >15         0         0         0           Antimony         ppm         ASTM D5185m         0         0         0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           Boron         ppm         ASTM D5185m         0         0         0         0           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         0         0         0           Magnesium         ppm         ASTM D5185m         <1         <1         <1         0         0	Nickel	ppm	ASTM D5185m		0	0	<1		
Aluminum         ppm         ASTM D5185m         >25         <1	Titanium	ppm	ASTM D5185m		0	0	0		
Lead         ppm         ASTM D5185m         >25         0         0         0           Copper         ppm         ASTM D5185m         >50         <1	Silver	ppm	ASTM D5185m		0	0	0		
Copper         ppm         ASTM D5185m         >50         <1	Aluminum	ppm	ASTM D5185m	>25	<1	0	2		
Tin         ppm         ASTM D5185m         >15         0         0         0           Antimony         ppm         ASTM D5185m           <1	Lead	ppm	ASTM D5185m	>25	0	0	0		
Antimony         ppm         ASTM D5185m           <1	Copper	ppm	ASTM D5185m	>50	<1	<1	<1		
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history1           Boron         ppm         ASTM D5185m         0         0         <1           Barium         ppm         ASTM D5185m         0         2         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         <1         <1         0           Calcium         ppm         ASTM D5185m         <1         0         0           Phosphorus         ppm         ASTM D5185m         561         475         462           Zinc         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         2         2 <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>&gt;15</td> <th>0</th> <td>0</td> <td>0</td>	Tin	ppm	ASTM D5185m	>15	0	0	0		
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history           Boron         ppm         ASTM D5185m         0         0         <1           Barium         ppm         ASTM D5185m         0         2         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         <1         <1         0           Magnesium         ppm         ASTM D5185m         <1         0         0           Calcium         ppm         ASTM D5185m         <1         0         0           Phosphorus         ppm         ASTM D5185m         561         475         462           Zinc         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1         0         2	Antimony	ppm	ASTM D5185m				<1		
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         <1           Barium         ppm         ASTM D5185m         0         2         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         <1         <1         0           Calcium         ppm         ASTM D5185m         <1         0         0           Phosphorus         ppm         ASTM D5185m         561         475         462           Zinc         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1         0         2	Vanadium	ppm	ASTM D5185m		0	0	0		
Boron         ppm         ASTM D5185m         0         0         <1	Cadmium	ppm	ASTM D5185m		0	0	0		
Barium         ppm         ASTM D5185m         0         2         0           Molybdenum         ppm         ASTM D5185m         0         0         0           Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         <1	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         <1	Boron	ppm	ASTM D5185m		0	0	<1		
Manganese         ppm         ASTM D5185m         0         0         0           Magnesium         ppm         ASTM D5185m         <1         <1         0           Calcium         ppm         ASTM D5185m         <1         0         0           Phosphorus         ppm         ASTM D5185m         561         475         462           Zinc         ppm         ASTM D5185m         42         14         13           Sulfur         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1         0         2	Barium	ppm	ASTM D5185m		0	2	0		
Magnesium         ppm         ASTM D5185m         <1	Molybdenum	ppm	ASTM D5185m		0	0	0		
Calcium         ppm         ASTM D5185m         <1	Manganese	ppm	ASTM D5185m		0	0	0		
Phosphorus         ppm         ASTM D5185m         561         475         462           Zinc         ppm         ASTM D5185m         42         14         13           Sulfur         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1	Magnesium	ppm	ASTM D5185m		<1	<1	0		
Zinc         ppm         ASTM D5185m         42         14         13           Sulfur         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1	Calcium	ppm	ASTM D5185m		<1	0	0		
Sulfur         ppm         ASTM D5185m         234         289         208           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1	Phosphorus	ppm	ASTM D5185m		561	475	462		
CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1         0         2	Zinc	ppm	ASTM D5185m		42	14	13		
Silicon         ppm         ASTM D5185m         >25         2         2         2           Sodium         ppm         ASTM D5185m         <1	Sulfur	ppm	ASTM D5185m		234	289	208		
Sodium         ppm         ASTM D5185m         <1	CONTAMINANTS		method	limit/base	current	history1	history2		
	Silicon	ppm	ASTM D5185m	>25	2	2	2		
Potassium ppm ASTM D5185m >20 <1 <1 <1	Sodium	ppm	ASTM D5185m		<1	0	2		
PP	Potassium	ppm	ASTM D5185m	>20	<1	<1	<1		
FLUID DEGRADATION method limit/base current history1 history	FLUID DEGRADA	TION	method	limit/base	current	history1	history2		

Acid Number (AN)

mg KOH/g ASTM D8045

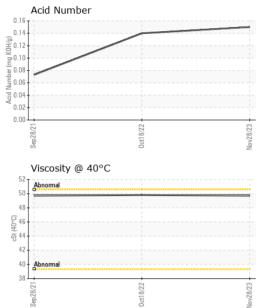
0.14

0.15

0.073



## **OIL ANALYSIS REPORT**



VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT	VLITE
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	VLITE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		49.7	49.8	49.7
SAMPLE IMAGES	3	method	limit/base	current	history1	history2
Color						1

# Ferrous Alloys Non-ferrous Metals Viscosity @ 40°C Acid Number 0.20 0.15 0.10





Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 06029489

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**Bottom** 

: UCH06029489 : 10779280

Received : 08 Dec 2023 Diagnosed Diagnostician : Jonathan Hester

: 13 Dec 2023

. 5 0.05 00.00 PG

**MICHIGAN AIR SOLUTIONS** 

4511 CLAY AVE SW GRAND RAPIDS, MI US 49548

Contact: KEVIN GEERTMAN

kevin@mi-air.com

T: F: (616)531-0084

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)