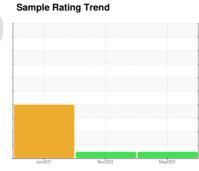


# **OIL ANALYSIS REPORT**

Area

DF-8 **KAESER 1083 - UNIFIED CML OPERATIONS LLC** Component





### 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

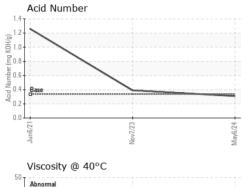
## **Fluid Condition**

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

Sample Number         Client Info         UD10000246         UCH06005774         UCH06317           Sample Date         Client Info         06 May 2024         07 Nov 2023         06 Jun 20           Machine Age         hrs         Client Info         27022         26940         22851           Oil Age         hrs         Client Info         1000         3000         6000           Oil Age         hrs         Client Info         1000         3000         6000           Oil Changed         Changed         Changed         Changed         Changed         Changed           Sample Status         Image: Control of Moral Machine         NoRMAL         NoRMAL         ABNORM           CONTAMINATION         method         limit/base         current         history1         history1           Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >3         0         <1							
Sample Date         Client Info         06 May 2024         07 Nov 2023         06 Jun 20           Machine Age         hrs         Client Info         27022         26940         22851           Oil Age         hrs         Client Info         1000         3000         6000           Oil Changed         Client Info         1000         3000         6000           Coll Changed Sample Status         Changed NoRMAL         NORMAL         ABNORM           CONTAMINATION         method         limit/base         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM 05185m         >50         0         2         15           Chromium         ppm         ASTM 05185m         >50         0         2         15           Chromium         ppm         ASTM 05185m         >10         0         <1         1           Nickel         ppm         ASTM 05185m         >3         0         <1         1         0           Nickel         ppm         ASTM 05185m         >2         0         <1         0         <1         0	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         27022         26940         22851           Oil Age         hrs         Client Info         1000         3000         6000           Oil Changed         Client Info         Changed         Changed         Changed           Sample Status         NORMAL         NORMAL         ABNORM           CONTAMINATION         method         limit/base         current         history1         history1           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         >3         0         <1         1         0           Silver         ppm         ASTM D5185m         >3         0         <1         0         0           Lead         ppm         ASTM D5185m         >10         <1         19         58           Lead         ppm         ASTM D5185m         >10         0         <1         2 <td< th=""><td>Sample Number</td><td></td><td>Client Info</td><td></td><th>UDI0000246</th><td>UCH06005774</td><td>UCH05316985</td></td<>	Sample Number		Client Info		UDI0000246	UCH06005774	UCH05316985
Oil Age         hrs         Client Info         1000         3000         6000           Oil Changed         Client Info         Changed         Changed         Changed         Changed           Sample Status         Nemath         Normal         Normal         ABNORM           CONTAMINATION         method         limit/base         current         history1         history1           WEAR METALS         method         limit/base         current         history1         history1           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >10         0         <1	Sample Date		Client Info		06 May 2024	07 Nov 2023	06 Jun 2021
Oil Changed Sample Status         Client Info         Changed NORMAL         Changed NORMAL         Changed ABNORMAL         Changed ABNORMAL         Changed ABNORMAL         Changed ABNORMAL         Changed ABNORMAL         ABNORMAL	Machine Age	hrs	Client Info		27022	26940	22851
NORMAL   NORMAL   ABNORM	Oil Age	hrs	Client Info		1000	3000	6000
CONTAMINATION         method         limit/base         current         history1         history1           Water         WC Method         >0.0.5         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         >3         0         <1         0           Silver         ppm         ASTM D5185m         >2         0         <1         0           Aluminum         ppm         ASTM D5185m         >10         <1         19         ▲ 58           Lead         ppm         ASTM D5185m         >10         <1         19         ▲ 58           Lead         ppm         ASTM D5185m         >10         0         <1         2           Copper         ppm         ASTM D5185m         >50         <1         3         3           Tin         ppm         ASTM D5185m         0         0         <1         0	Oil Changed		Client Info		Changed	Changed	Changed
Water         WC Method         >0.05         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >10         0         <1	Sample Status				NORMAL	NORMAL	ABNORMAL
WEAR METALS         method         limit/base         current         history1         history1           Iron         ppm         ASTM D5185m         >50         0         2         15           Chromium         ppm         ASTM D5185m         >10         0         <1         0           Nickel         ppm         ASTM D5185m         >3         0         <1         <1           Titanium         ppm         ASTM D5185m         >2         0         <1         0           Silver         ppm         ASTM D5185m         >2         0         <1         0           Aluminum         ppm         ASTM D5185m         >10         <1         19         ▲ 58           Lead         ppm         ASTM D5185m         >10         0         <1         2           Copper         ppm         ASTM D5185m         >10         0         <1         2           Copper         ppm         ASTM D5185m         >10         0         <1         0           Antimony         ppm         ASTM D5185m         >10         0         <1         0           Vanadium         ppm         ASTM D5185m         0         0         <1 <th>CONTAMINATIO</th> <th>N</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATIO	N	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >10         0         <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >3         0         <1	Iron	ppm	ASTM D5185m	>50	0	2	15
Titanium         ppm         ASTM D5185m         >3         0         <1	Chromium	ppm	ASTM D5185m	>10	0	<1	0
Silver         ppm         ASTM D5185m         >2         0         <1	Nickel	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum         ppm         ASTM D5185m         >10         <1	Titanium	ppm	ASTM D5185m	>3	0	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	0	<1	0
Copper         ppm         ASTM D5185m         >50         <1	Aluminum	ppm	ASTM D5185m	>10	<1	19	<u></u> 58
Tin	Lead	ppm	ASTM D5185m	>10	0	<1	2
Antimony         ppm         ASTM D5185m           0           Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         <1	Copper	ppm	ASTM D5185m	>50	<1	3	3
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         1         0         0         0           Barium         ppm         ASTM D5185m         0.3         <1         0         0           Molybdenum         ppm         ASTM D5185m         0         0         <1         0           Manganese         ppm         ASTM D5185m         0         0         0         <1           Magnesium         ppm         ASTM D5185m         0.5         0         0         0           Phosphorus         ppm         ASTM D5185m         0.5         0         0         0           Phosphorus         ppm         ASTM D5185m         0.2         27         203         121           Sulfur         ppm         ASTM D5185m         0.2         27         203         121           Sulfur         ppm         ASTM D5185m         >25         <1         <1         0	Tin	ppm	ASTM D5185m	>10	0	<1	0
Cadmium         ppm         ASTM D5185m         0         <1	Antimony	ppm	ASTM D5185m				0
ADDITIVES         method         limit/base         current         history1         history           Boron         ppm         ASTM D5185m         1         0         0         0           Barium         ppm         ASTM D5185m         0.3         <1         0         0           Molybdenum         ppm         ASTM D5185m         0         0         <1         0           Manganese         ppm         ASTM D5185m         0         0         0         <1         1         2           Calcium         ppm         ASTM D5185m         0.5         0         1         1         1<	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         1         0         0         0           Barium         ppm         ASTM D5185m         0.3         <1	Cadmium	ppm	ASTM D5185m		0	<1	0
Barium         ppm         ASTM D5185m         0.3         <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0         <1	Boron	ppm	ASTM D5185m	1	0	0	0
Manganese         ppm         ASTM D5185m         0         0         0         <1	Barium	ppm	ASTM D5185m	0.3	<1	0	0
Magnesium         ppm         ASTM D5185m         0         <1	Molybdenum	ppm	ASTM D5185m	0	0	<1	0
Calcium         ppm         ASTM D5185m         0.5         0         0         0           Phosphorus         ppm         ASTM D5185m         536         249         356         486           Zinc         ppm         ASTM D5185m         0.2         27         203         121           Sulfur         ppm         ASTM D5185m         649         1165         1416         1842           CONTAMINANTS         method         limit/base         current         history1         history1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         >20         0         1         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	Manganese	ppm	ASTM D5185m	0	0	0	<1
Phosphorus         ppm         ASTM D5185m         536         249         356         486           Zinc         ppm         ASTM D5185m         0.2         27         203         121           Sulfur         ppm         ASTM D5185m         649         1165         1416         1842           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         1         0         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	Magnesium	ppm	ASTM D5185m	0	<1	1	2
Zinc         ppm         ASTM D5185m         0.2         27         203         121           Sulfur         ppm         ASTM D5185m         649         1165         1416         1842           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         1         0         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	Calcium	ppm	ASTM D5185m	0.5	0	0	0
Sulfur         ppm         ASTM D5185m         649         1165         1416         1842           CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         1         0         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	Phosphorus	ppm	ASTM D5185m	536	249	356	486
CONTAMINANTS         method         limit/base         current         history1         history           Silicon         ppm         ASTM D5185m         >25         <1         <1         0           Sodium         ppm         ASTM D5185m         1         0         <1           Potassium         ppm         ASTM D5185m         >20         0         1         <1	Zinc	ppm	ASTM D5185m	0.2	27	203	121
Silicon         ppm         ASTM D5185m         >25         <1	Sulfur	ppm	ASTM D5185m	649	1165	1416	1842
Sodium         ppm         ASTM D5185m         1         0         <1	CONTAMINANTS	;	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         0         1         <1	Silicon	ppm	ASTM D5185m	>25	<1	<1	0
•	Sodium	ppm	ASTM D5185m		1	0	<1
FLUID DEGRADATION method limit/base current history1 histor	Potassium	ppm	ASTM D5185m	>20	0	1	<1
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Acid Number (AN)         mg KOH/g         ASTM D8045         0.337         0.31         0.39         1.259	Acid Number (AN)	mg KOH/g	ASTM D8045	0.337	0.31	0.39	1.259



## **OIL ANALYSIS REPORT**

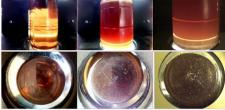




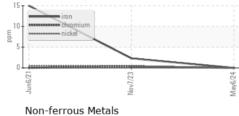
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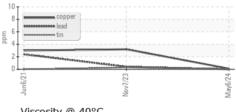
SAMPLE IMAGES

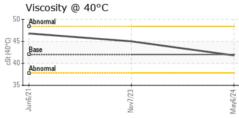


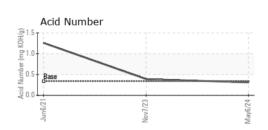


## **GRAPHS** Ferrous Alloys













Certificate 12367

Laboratory Sample No. Lab Number : 06175644 Unique Number : 11021697

Test Package : IND 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : UDI0000246 Received : 10 May 2024

**Tested** : 13 May 2024 Diagnosed : 13 May 2024 - Doug Bogart

**DELTA INDUSTRIES - DOWNERS GROVE** 

2201 CURTISS STREET DOWNERS GROVE, IL US 60515

Contact: MICHAEL FERRIS

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)

Contact/Location: MICHAEL FERRIS - UCDELDOW

F: (630)960-3931