

## **OIL ANALYSIS REPORT**

## NORMAL

### Machine Id HS-10 (S/N TDSH233L2025FR) Component

Refrigeration Compressor

Refrigeration Compressor Oil (150 GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The water content is negligible. There is no indication of any contamination in the oil.

## Fluid Condition

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



Sample Rating Trend

SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0831577	WC0796741	WC0700520
Sample Date		Client Info		10 Jul 2023	06 Mar 2023	06 Feb 2023
Machine Age	hrs	Client Info		10458	9293	8164
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 D5185m	>8	7	6	6
Chromium	ppm	ASTM D5185m	>2	0	0	0
Nickel	ppm	ASTM D5185m		<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>3	<1	0	0
Lead	ppm	ASTM D5185m	>2	0	0	0
Copper	ppm	ASTM D5185m	>8	<1	0	0
Tin	ppm	ASTM D5185m	>4	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 0
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0 2	0	0 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0	0 0 0 0 0	0 0 <1
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0	0 0 0 0	0 0 <1 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0 0	0 0 0 0 0	0 0 <1 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0 0 0	0 0 0 0 0 0	0 0 <1 0 0 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0 0 0 <1	0 0 0 0 0 0 7	0 0 <1 0 0 4 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0 0 0 <1 1	0 0 0 0 0 0 7 0	0 0 <1 0 0 4 8 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		0 2 0 0 0 0 <1 1 54	0 0 0 0 0 0 7 0 7 0 50	0 0 <1 0 0 4 8 0 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 2 0 0 0 0 <1 1 54 24	0 0 0 0 0 0 7 0 50 50 history1	0 0 <1 0 0 4 8 0 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	0 2 0 0 0 <1 1 54 <b>current</b>	0 0 0 0 0 0 7 0 50 50 history1 <1	0 0 <1 0 0 4 8 0 0 0 history2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	0 2 0 0 0 <1 1 54 <b>Current</b> <1 0	0 0 0 0 0 0 7 0 50 50 history1 <1 0	0 0 <1 0 0 4 8 0 0 0 0 history2 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >15 >20	0 2 0 0 0 <1 1 54 <i>current</i> <1 0 <1	0 0 0 0 0 0 7 0 50 50 <b>history1</b> <1 0 1	0 0 <1 0 0 4 8 0 0 0 <b>history2</b> <1 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >15 >20 >0.01	0 2 0 0 0 3 4 1 54 <b>current</b> <1 0 4 3 0 4 1 0 3 1 0 3 1 1 0 3	0 0 0 0 0 0 7 0 50 50 history1 <1 0 1 0.003	0 0 <1 0 0 4 8 0 0 0 <b>history2</b> <1 <1 0 0 0.004



130

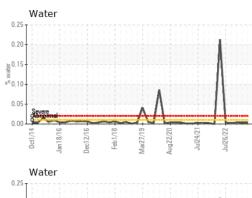
120

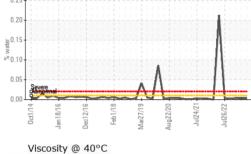
000 CSt (40-C) 00 CSt (40-C)

7

60

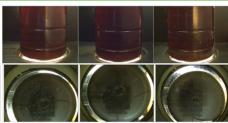
# **OIL ANALYSIS REPORT**





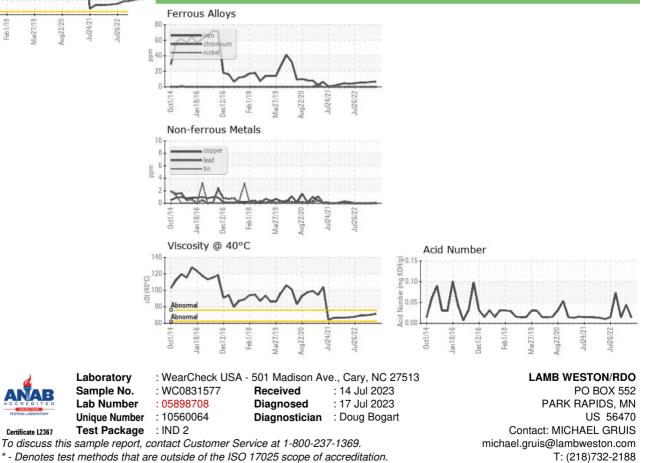


Color



Bottom

## GRAPHS



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: MICHAEL GRUIS - LAMPAR

F: (218)732-2175