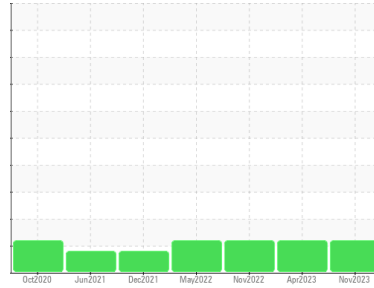


# PROBLEM SUMMARY

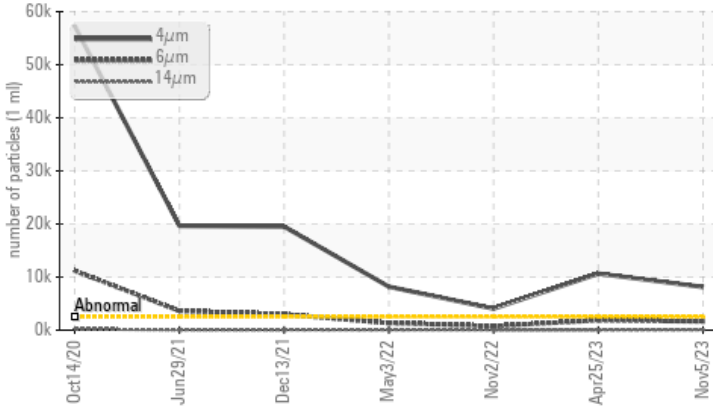
Sample Rating Trend



Area  
**Marcus Hook/Cryogenic/Compressor**  
Machine Id  
**CRYOGENIC COMPRESSOR 40-C-102C**  
Component  
**Rotary Compressor**  
Fluid  
**FRICK COMPRESSOR OIL #12B (825 GAL)**

## COMPONENT CONDITION SUMMARY

▲ Particle Trend



## RECOMMENDATION

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

Sample Status			<b>ABNORMAL</b>	ABNORMAL	ABNORMAL
Particles >4µm	ASTM D7647	>2500	▲ <b>8134</b>	▲ 10650	▲ 4056
Particles >6µm	ASTM D7647	>320	▲ <b>1636</b>	▲ 1850	▲ 763
Oil Cleanliness	ISO 4406 (c)	>18/15/13	▲ <b>20/18/13</b>	▲ 21/18/12	▲ 19/17/12

Customer Id: ETCMHOOK  
Sample No.: TO60001831  
Lab Number: 05999957  
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:  
Don Baldrige +1  
[don.b505@comcast.net](mailto:don.b505@comcast.net)

To change component or sample information:  
Customer Service +1 1-800-237-1369  
[customerservice@wearcheck.com](mailto:customerservice@wearcheck.com)

## RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.

## HISTORICAL DIAGNOSIS

### 25 Apr 2023 Diag: Jonathan Hester

ISO



We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 02 Nov 2022 Diag: Don Baldrige

ISO



We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



### 03 May 2022 Diag: Don Baldrige

ISO

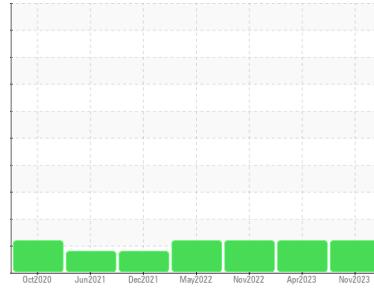


We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Area  
**Marcus Hook/Cryogenic/Compressor**  
 Machine Id  
**CRYOGENIC COMPRESSOR 40-C-102C**  
 Component  
**Rotary Compressor**  
 Fluid  
**FRICK COMPRESSOR OIL #12B (825 GAL)**



## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

### Fluid Condition

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

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>TO60001831</b>	TO90003043	TO90002752
Sample Date	Client Info	<b>05 Nov 2023</b>	25 Apr 2023	02 Nov 2022
Machine Age	hrs Client Info	<b>0</b>	0	0
Oil Age	hrs Client Info	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>ABNORMAL</b>	ABNORMAL	ABNORMAL

## WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >70	<b>0</b>	1	<1
Chromium	ppm ASTM D5185m >10	<b>0</b>	0	0
Nickel	ppm ASTM D5185m	<b>0</b>	0	0
Titanium	ppm ASTM D5185m	<b>0</b>	0	0
Silver	ppm ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm ASTM D5185m >3	<b>0</b>	0	0
Lead	ppm ASTM D5185m >4	<b>0</b>	0	<1
Copper	ppm ASTM D5185m >20	<b>0</b>	0	0
Tin	ppm ASTM D5185m >3	<b>&lt;1</b>	<1	<1
Vanadium	ppm ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm ASTM D5185m	<b>&lt;1</b>	0	0

## ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	<b>0</b>	0	<1
Barium	ppm ASTM D5185m	<b>0</b>	0	0
Molybdenum	ppm ASTM D5185m	<b>0</b>	0	0
Manganese	ppm ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm ASTM D5185m	<b>&lt;1</b>	<1	0
Calcium	ppm ASTM D5185m	<b>2</b>	0	0
Phosphorus	ppm ASTM D5185m	<b>9</b>	9	27
Zinc	ppm ASTM D5185m	<b>0</b>	0	0
Sulfur	ppm ASTM D5185m	<b>8</b>	0	0

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >45	<b>5</b>	5	5
Sodium	ppm ASTM D5185m	<b>2</b>	3	2
Potassium	ppm ASTM D5185m >20	<b>0</b>	<1	0
Water	% ASTM D6304 >0.6	<b>0.154</b>	0.036	0.063
ppm Water	ppm ASTM D6304	<b>1549.8</b>	369.7	630

## FLUID CLEANLINESS

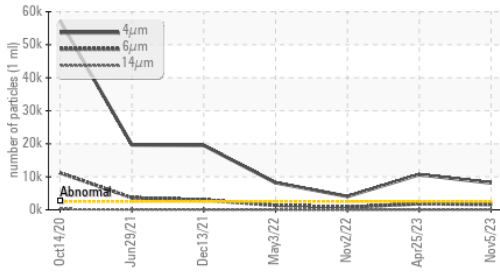
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >2500	<b>▲ 8134</b>	▲ 10650	▲ 4056
Particles >6µm	ASTM D7647 >320	<b>▲ 1636</b>	▲ 1850	▲ 763
Particles >14µm	ASTM D7647 >80	<b>60</b>	33	33
Particles >21µm	ASTM D7647 >20	<b>8</b>	4	7
Particles >38µm	ASTM D7647 >4	<b>1</b>	1	0
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >18/15/13	<b>▲ 20/18/13</b>	▲ 21/18/12	▲ 19/17/12

## FLUID DEGRADATION

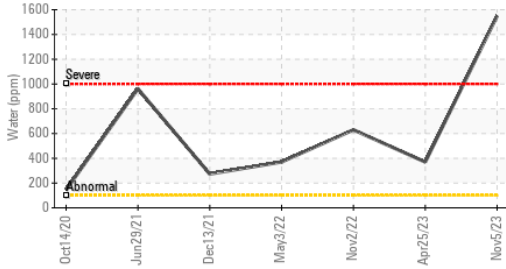
method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045	<b>0.029</b>	0.028	0.102

# OIL ANALYSIS REPORT

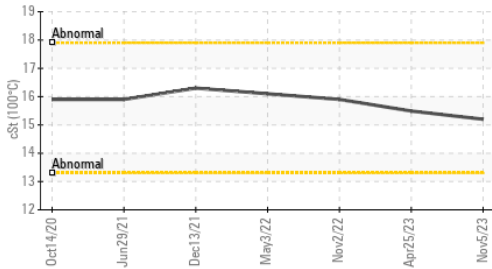
### ▲ Particle Trend



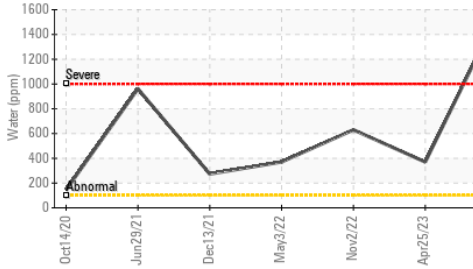
### Water (KF)



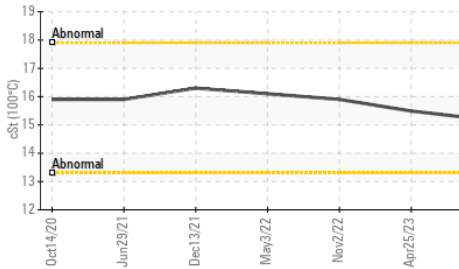
### Viscosity @ 100°C



### Water (KF)



### Viscosity @ 100°C

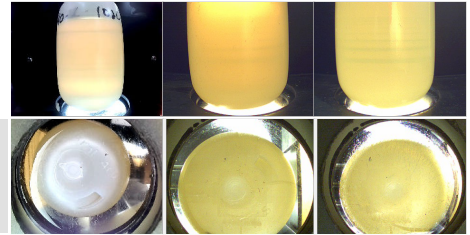


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.6	NEG	NEG
Free Water	scalar	*Visual	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	99.1	103	106
Visc @ 100°C	cSt	ASTM D445	15.2	15.49	15.9
Viscosity Index (VI)	Scale	ASTM D2270	161	159	160

SAMPLE IMAGES	method	limit/base	current	history1	history2
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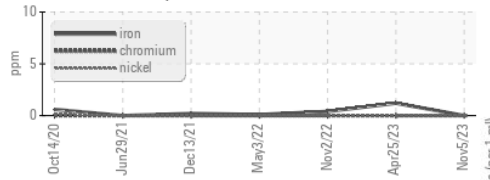
Color



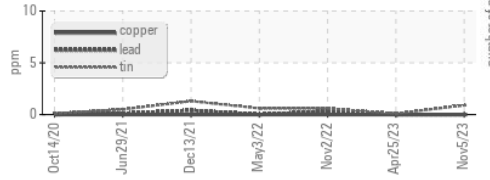
Bottom

### GRAPHS

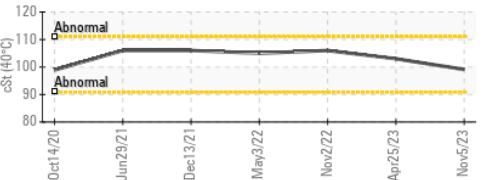
#### Ferrous Alloys



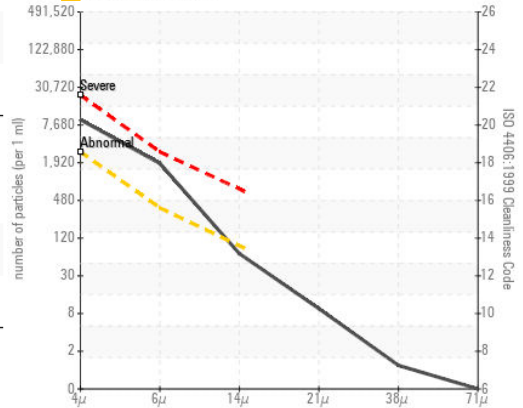
#### Non-ferrous Metals



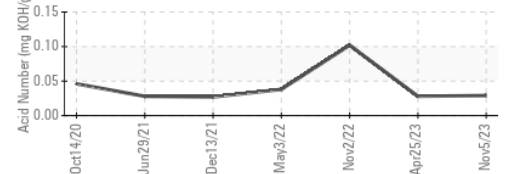
#### Viscosity @ 40°C



#### ▲ Particle Count



#### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TO60001831 **Received** : 06 Nov 2023  
**Lab Number** : 05999957 **Diagnosed** : 08 Nov 2023  
**Unique Number** : 10728317 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, KV100, PrtCount, VI )

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)

**ENERGY TRANSFER - MARCUS HOOK**  
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 US 19061  
 Contact: CHRISTOPHER HOFFA  
 christopher.hoffa@energytransfer.com

T:  
F: