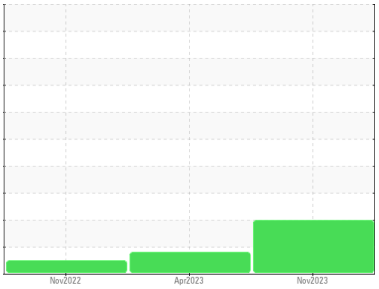
PROBLEM SUMMARY

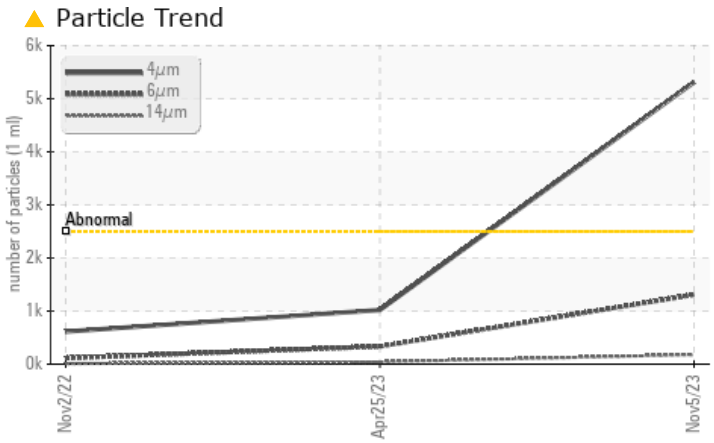
Sample Rating Trend



ISO

Area
Marcus Hook/Cryogenic/Compressor
Machine Id
CRYOGENIC COMPRESSOR 20-C-301B
Component
Rotary Compressor
Fluid
SHELL TURBO S4 GX 46 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	ATTENTION	NORMAL
Particles >4µm		ASTM D7647	>2500	▲ **5311**	1020	614
Particles >6µm		ASTM D7647	>320	▲ **1307**	▲ 333	114
Particles >14µm		ASTM D7647	>80	▲ **179**	41	10
Particles >21µm		ASTM D7647	>20	▲ **74**	16	3
Oil Cleanliness		ISO 4406 (c)	>18/15/13	▲ **20/18/15**	▲ 17/16/13	16/14/10

Customer Id: ETCMHOOK
Sample No.: TO60001811
Lab Number: 05999941
Test Package: IND 2

To manage this report scan the QR code

To discuss the diagnosis or test data:
Angela Borella +1 800-237-1369
angela.borella@wearcheckusa.com

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

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

25 Apr 2023 Diag: Doug Bogart

ISO

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a moderate 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: Jonathan Hester

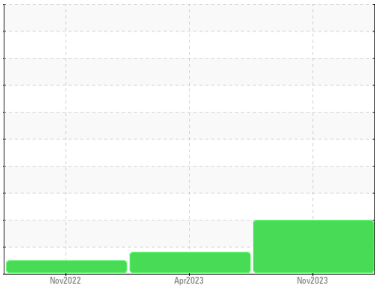
NORMAL

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
Marcus Hook/Cryogenic/Compressor
Machine Id
CRYOGENIC COMPRESSOR 20-C-301B
Component
Rotary Compressor
Fluid
SHELL TURBO S4 GX 46 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of particulates 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		**TO60001811**	TO90003023	TO90002783
Sample Date		Client Info		**05 Nov 2023**	25 Apr 2023	02 Nov 2022
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ATTENTION	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>70	**0**	0	0
Chromium	ppm	ASTM D5185m	>10	**0**	0	0
Nickel	ppm	ASTM D5185m		**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>3	**0**	0	0
Lead	ppm	ASTM D5185m	>4	**0**	0	0
Copper	ppm	ASTM D5185m	>20	**0**	0	0
Tin	ppm	ASTM D5185m	>3	**0**	0	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	0
Manganese	ppm	ASTM D5185m	0	**0**	0	0
Magnesium	ppm	ASTM D5185m	0	**0**	0	0
Calcium	ppm	ASTM D5185m	0	**<1**	0	0
Phosphorus	ppm	ASTM D5185m	75	**48**	69	86
Zinc	ppm	ASTM D5185m	10	**0**	0	0
Sulfur	ppm	ASTM D5185m	75	**46**	63	0

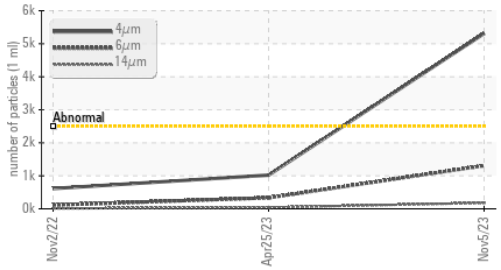
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>45	**<1**	<1	<1
Sodium	ppm	ASTM D5185m		**2**	0	<1
Potassium	ppm	ASTM D5185m	>20	**0**	<1	0
Water	%	ASTM D6304	>0.6	**0.002**	0.002	0.175
ppm Water	ppm	ASTM D6304		**22.4**	21.3	1750

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **5311**	1020	614
Particles >6µm		ASTM D7647	>320	▲ **1307**	▲ 333	114
Particles >14µm		ASTM D7647	>80	▲ **179**	41	10
Particles >21µm		ASTM D7647	>20	▲ **74**	16	3
Particles >38µm		ASTM D7647	>4	**4**	4	0
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/15/13	▲ **20/18/15**	▲ 17/16/13	16/14/10

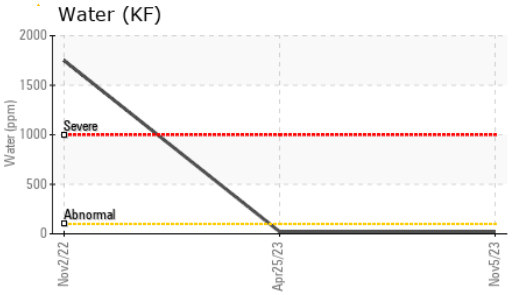
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.15	**0.073**	0.108	0.12

OIL ANALYSIS REPORT

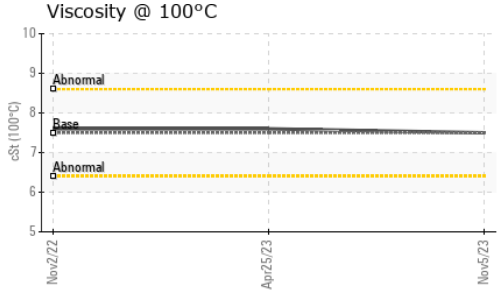
Particle Trend



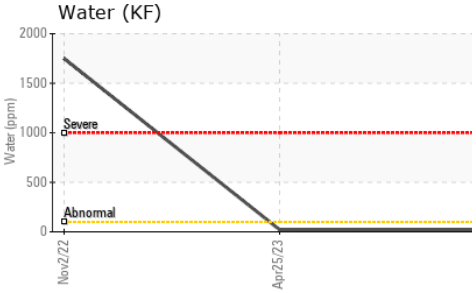
Water (KF)



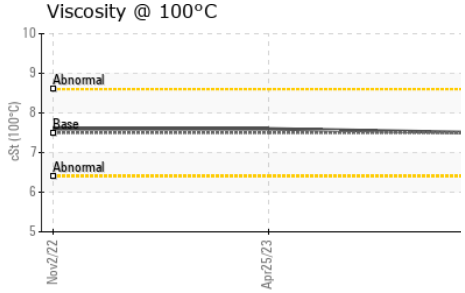
Viscosity @ 100°C



Water (KF)

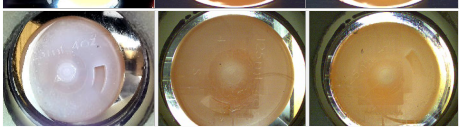


Viscosity @ 100°C



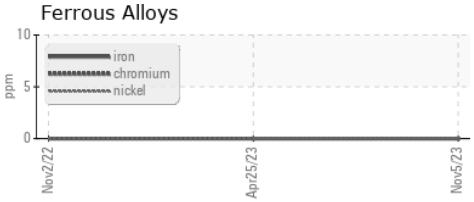
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	43.5	**44.0**	43.7	43.7
Visc @ 100°C	cSt	ASTM D445	7.50	**7.5**	7.6	7.6
Viscosity Index (VI)	Scale	ASTM D2270	139	**136**	142	142

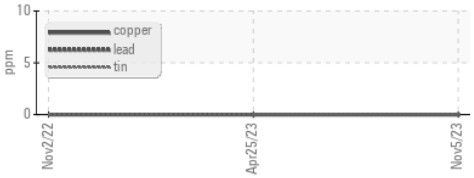
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

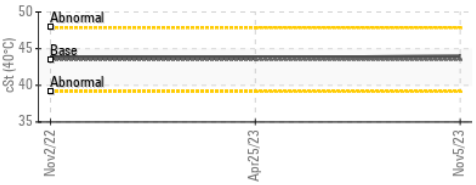
Ferrous Alloys



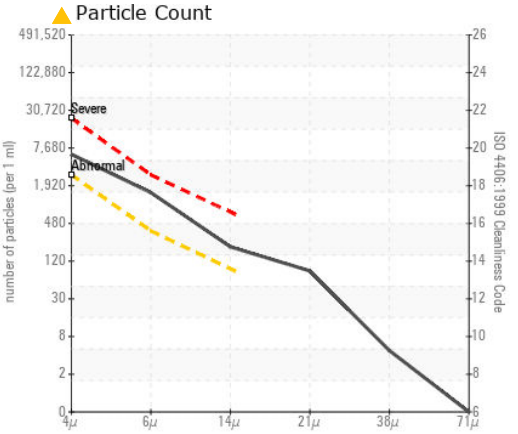
Non-ferrous Metals



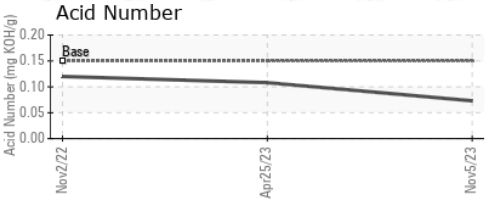
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60001811 **Received** : 06 Nov 2023
Lab Number : 05999941 **Diagnosed** : 13 Nov 2023
Unique Number : 10728301 **Diagnostician** : Angela Borella
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
2ND & GREEN STREETS
MARCUS HOOK, PA
US 19061
Contact: CHRISTOPHER HOFFA
christopher.hoffa@energytransfer.com
T:
F:

Report Id: ETCMHOOK [WUSCAR] 05999941 (Generated: 11/13/2023 13:26:00) Rev: 1

Submitted By: ERIC THORNTON