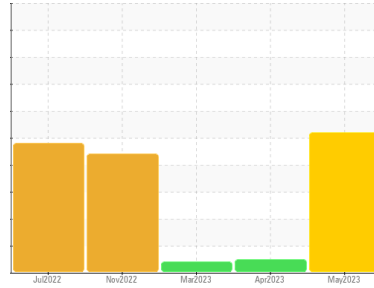
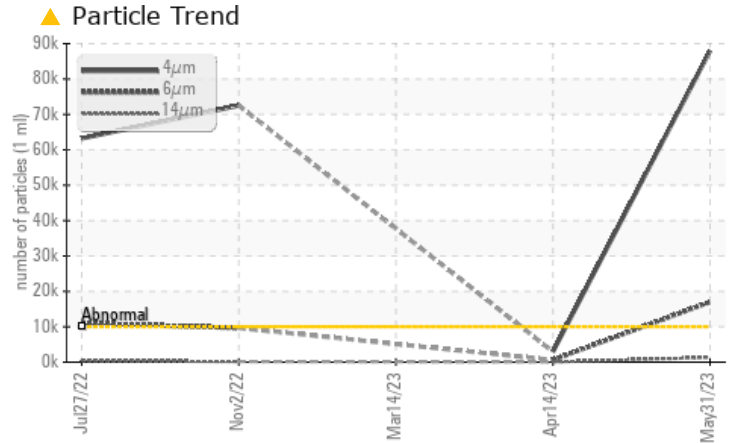
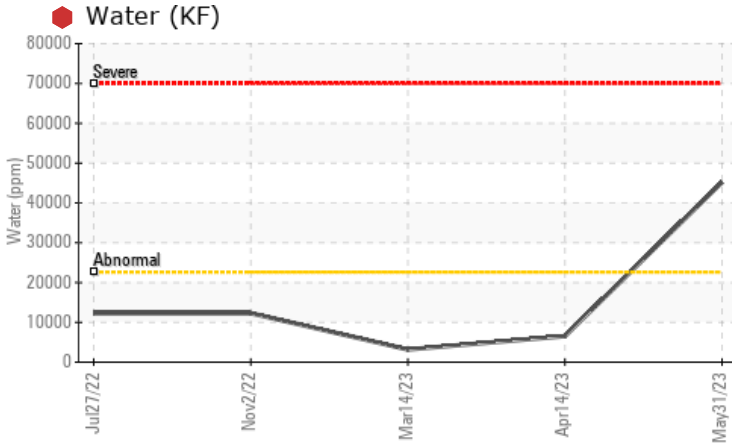




Machine Id
BOSS HARROW CTB (S/N 119215)
 Component
Compressor
 Fluid
TULCO LUBSOIL LPG WS 150 (1 GAL)



COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Else, we recommend that you drain the oil and perform a filter service on this component if not already done. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	NORMAL	ABNORMAL
Water	%	ASTM D6304	>2.26	4.52	0.654	0.318
ppm Water	ppm	ASTM D6304	>22600	45200	6540	3180
Particles >4µm		ASTM D7647	>10000	87987	2952	---
Particles >6µm		ASTM D7647	>1300	16982	592	---
Particles >14µm		ASTM D7647	>320	1307	30	---
Particles >21µm		ASTM D7647	>80	397	6	---
Oil Cleanliness		ISO 4406 (c)	>20/17/15	24/21/18	19/16/12	---

Customer Id: RICHOB
 Sample No.: TO90003431
 Lab Number: 05867334
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

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

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	MISSED	Nov 30 2023	?	We recommend that you drain the oil and perform a filter service on this component if not already done.
Change Filter	MISSED	Nov 30 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Filter Fluid	MISSED	Nov 30 2023	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

14 Apr 2023 Diag: Don Baldrige

NORMAL



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

view report



14 Mar 2023 Diag: Don Baldrige

VIS DEBRIS



We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample. All component wear rates are normal. Moderate concentration of visible dirt/debris 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: Angela Borella

WATER



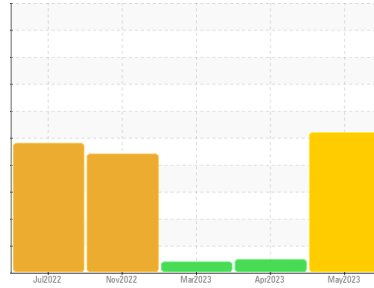
We advise that you follow the water drain-off procedure for this component. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. There is a high concentration of water present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report





Machine Id
BOSS HARROW CTB (S/N 119215)
 Component
Compressor
 Fluid
TULCO LUBSOIL LPG WS 150 (1 GAL)



DIAGNOSIS

Recommendation

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Else, we recommend that you drain the oil and perform a filter service on this component if not already done. 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. There is a high concentration of water present in the oil.

Fluid Condition

The AN level is acceptable for this fluid.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		TO90003431	TO90002807	TO90002838
Sample Date	Client Info		31 May 2023	14 Apr 2023	14 Mar 2023
Machine Age	hrs	Client Info	119215	12301	11646
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	NORMAL	ABNORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >50	<1	0	0
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m	<1	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	0	0
Lead	ppm	ASTM D5185m >25	<1	0	0
Copper	ppm	ASTM D5185m >50	<1	<1	<1
Tin	ppm	ASTM D5185m >15	3	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	1	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	0	0
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m 0	2	0	0
Calcium	ppm	ASTM D5185m 0	0	0	0
Phosphorus	ppm	ASTM D5185m 0	6	0	0
Zinc	ppm	ASTM D5185m 0	0	0	0
Sulfur	ppm	ASTM D5185m 0	261	228	48

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	1	<1	5
Sodium	ppm	ASTM D5185m	0	0	0
Potassium	ppm	ASTM D5185m >20	2	<1	1
Water	%	ASTM D6304 >2.26	4.52	0.654	0.318
ppm Water	ppm	ASTM D6304 >22600	45200	6540	3180

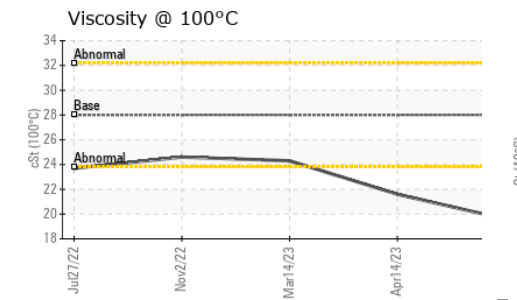
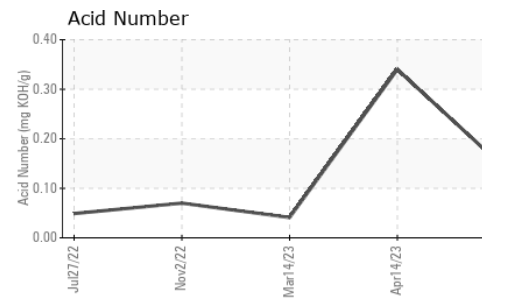
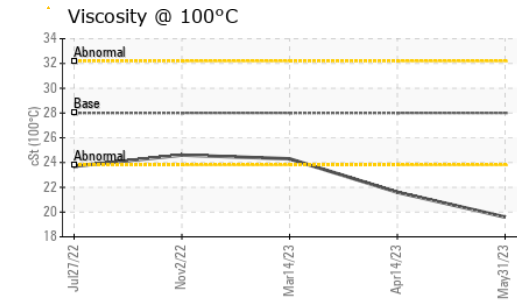
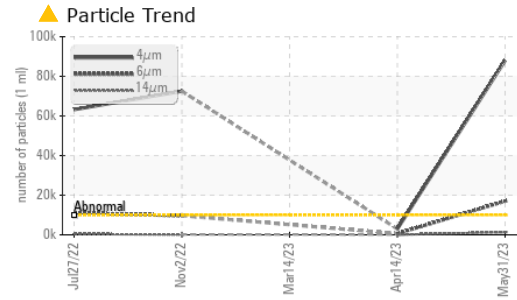
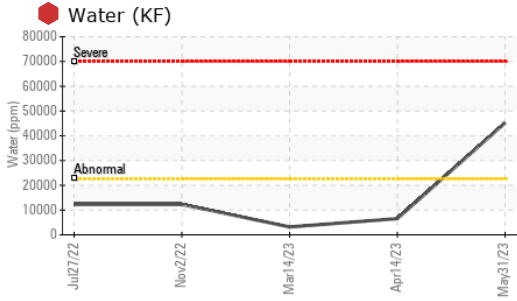
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	87987	2952	---
Particles >6µm	ASTM D7647	>1300	16982	592	---
Particles >14µm	ASTM D7647	>320	1307	30	---
Particles >21µm	ASTM D7647	>80	397	6	---
Particles >38µm	ASTM D7647	>20	14	1	---
Particles >71µm	ASTM D7647	>4	0	0	---
Oil Cleanliness	ISO 4406 (c)	>20/17/15	24/21/18	19/16/12	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.14	0.34	0.041

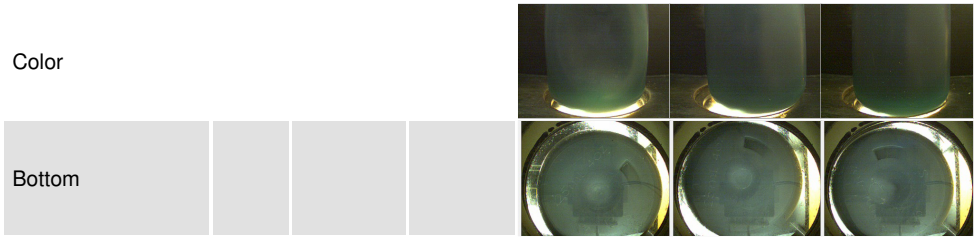
OIL ANALYSIS REPORT



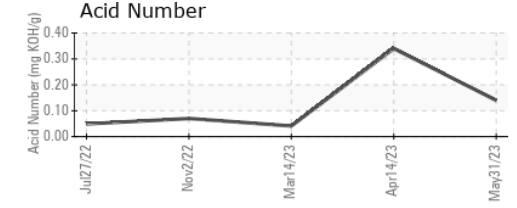
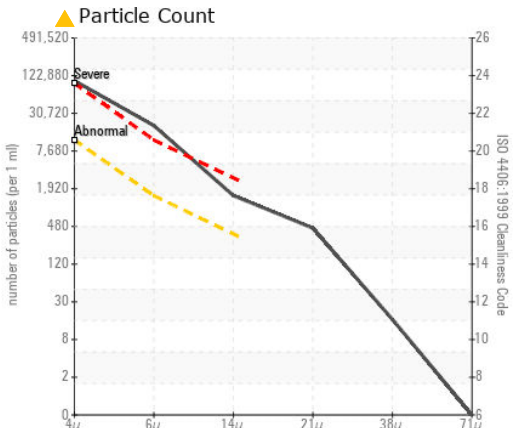
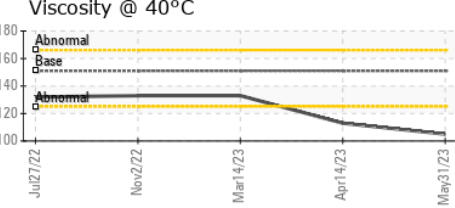
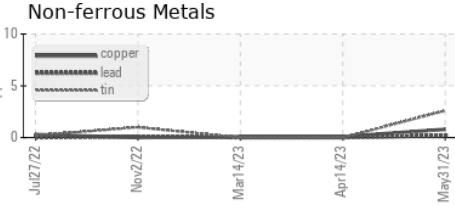
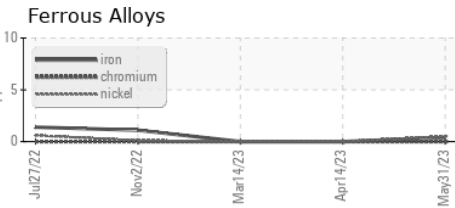
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>2.26	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	151	105	113
Visc @ 100°C	cSt	ASTM D445	28	19.6	21.6
Viscosity Index (VI)	Scale	ASTM D2270	224	210	219

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO90003431 **Received** : 07 Jun 2023
Lab Number : 05867334 **Diagnosed** : 27 Jun 2023
Unique Number : 10507118 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

RICHARDS ENERGY COMPRESSION
 1629 WEST BENDER
 HOBBS, NM
 US 88240
 Contact: BILL RICHARDSON
 richardsenergy@windstream.net

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)