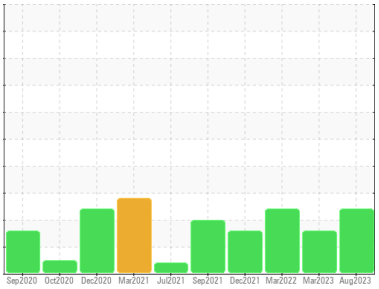
PROBLEM SUMMARY

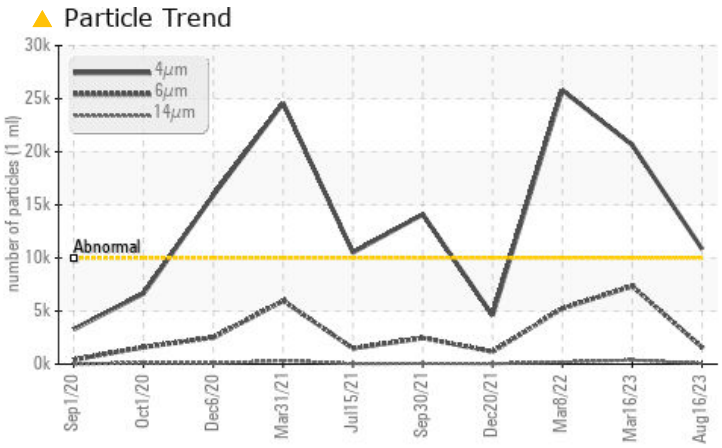
Sample Rating Trend

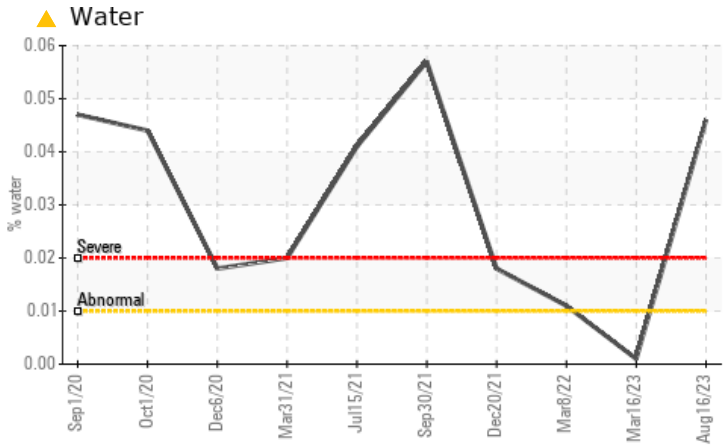


WATER

Machine Id
C-163 - PANTHER 2 C-163 - PANTHER 2
Component
Refrigeration Compressor
Fluid
CPI ENG. 1516-100 (--- 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				ATTENTION	ABNORMAL	ABNORMAL
Water	%	ASTM D6304	>0.01	▲ **0.046**	0.001	▲ 0.011
ppm Water	ppm	ASTM D6304	>100	▲ **464.0**	0.00	▲ 118.1
Particles >4µm		ASTM D7647	>10000	▲ **10845**	▲ 20645	▲ 25804
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **21/18/13**	▲ 22/20/16	▲ 22/20/15

Customer Id: ENERAN
Sample No.: TO90002287
Lab Number: 05931597
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

16 Mar 2023 Diag: Doug Bogart

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

view report

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08 Mar 2022 Diag: Don Baldridge

WATER

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. There is a trace of moisture present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

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20 Dec 2021 Diag: Don Baldridge

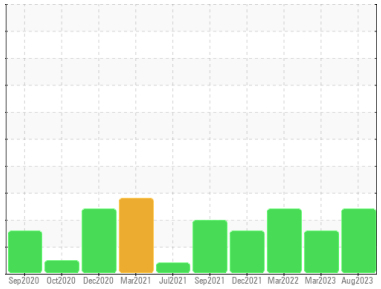
WATER

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 trace of moisture present 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



WATER

Machine Id
C-163 - PANTHER 2 C-163 - PANTHER 2
Component
Refrigeration Compressor
Fluid
CPI ENG. 1516-100 (--- 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 moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a trace of moisture 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		**TO90002287**	TO90002370	TO90000866
Sample Date		Client Info		**16 Aug 2023**	16 Mar 2023	08 Mar 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				**ATTENTION**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>8	**9**	10	0
Chromium	ppm	ASTM D5185m	>2	**<1**	0	0
Nickel	ppm	ASTM D5185m		**0**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>3	**0**	1	<1
Lead	ppm	ASTM D5185m	>2	**0**	0	0
Copper	ppm	ASTM D5185m	>8	**1**	0	0
Tin	ppm	ASTM D5185m	>4	**2**	1	<1
Antimony	ppm	ASTM D5185m		**---**	---	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	2
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	<1	0
Manganese	ppm	ASTM D5185m		**<1**	<1	0
Magnesium	ppm	ASTM D5185m		**1**	3	0
Calcium	ppm	ASTM D5185m		**72**	120	69
Phosphorus	ppm	ASTM D5185m		**943**	605	530
Zinc	ppm	ASTM D5185m		**0**	12	0
Sulfur	ppm	ASTM D5185m		**13**	45	12

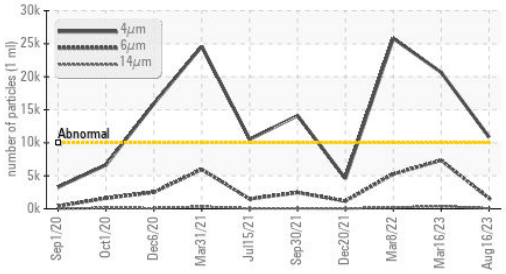
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**4**	4	4
Sodium	ppm	ASTM D5185m		**1**	0	0
Potassium	ppm	ASTM D5185m	>20	**<1**	<1	0
Water	%	ASTM D6304	>0.01	▲ **0.046**	0.001	▲ 0.011
ppm Water	ppm	ASTM D6304	>100	▲ **464.0**	0.00	▲ 118.1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **10845**	▲ 20645	▲ 25804
Particles >6µm		ASTM D7647	>2500	**1594**	▲ 7339	▲ 5256
Particles >14µm		ASTM D7647	>320	**60**	▲ 379	185
Particles >21µm		ASTM D7647	>80	**16**	58	37
Particles >38µm		ASTM D7647	>20	**1**	2	1
Particles >71µm		ASTM D7647	>4	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **21/18/13**	▲ 22/20/16	▲ 22/20/15

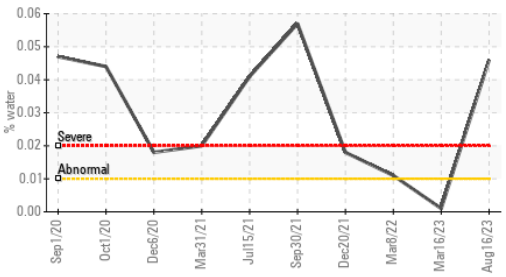
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974		**0.046**	0.089	0.043

OIL ANALYSIS REPORT

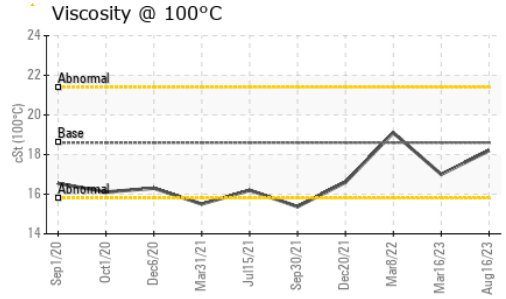
Particle Trend



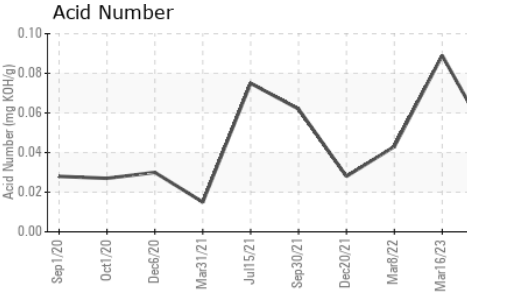
Water



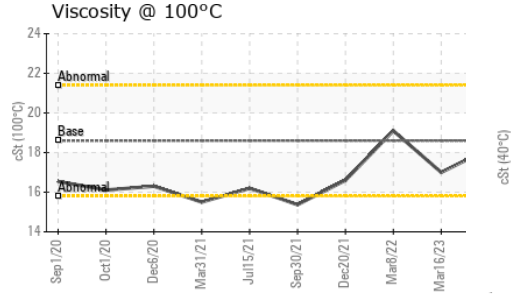
Viscosity @ 100°C



Acid Number

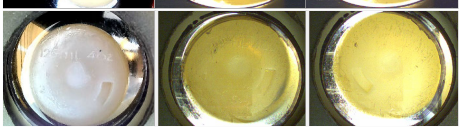


Viscosity @ 100°C



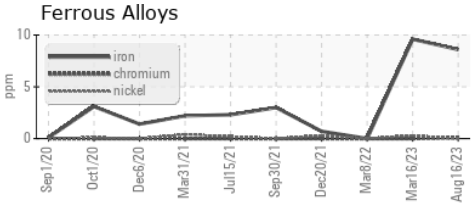
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	VLITE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	92.3	**102**	101	99.8
Visc @ 100°C	cSt	ASTM D445	18.6	**18.2**	17.0	19.1
Viscosity Index (VI)	Scale	ASTM D2270	223	**198**	183	214

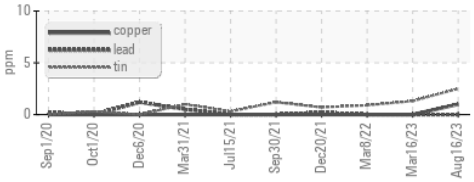
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

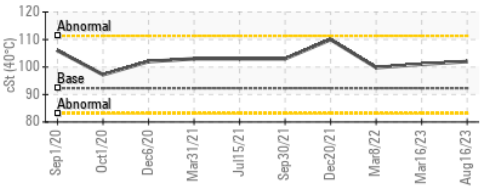
Ferrous Alloys



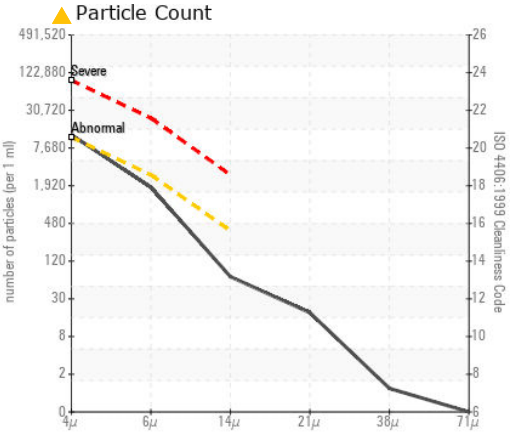
Non-ferrous Metals



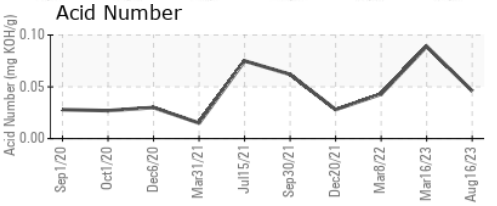
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO90002287 **Received** : 22 Aug 2023
Lab Number : 05931597 **Diagnosed** : 24 Aug 2023
Unique Number : 10616868 **Diagnostician** : Angela Borella
Test Package : IND 2 (Additional Tests: 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)

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F:

Report Id: ENERAN [WUSCAR] 05931597 (Generated: 08/24/2023 15:17:40) Rev: 1

Submitted By: ERIC THORNTON