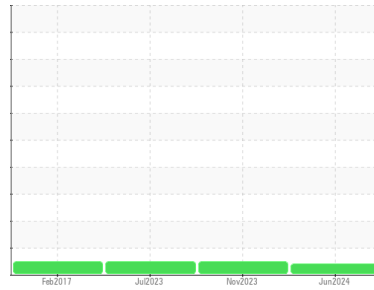




OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS



Machine Id
HT-211 (S/N Y1011)
 Component
Refrigeration Compressor
 Fluid
FES 1 (185 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. 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.

Wear

All component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris 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		USP0013033	USP0003857	USP0000959
Sample Date	Client Info		17 Jun 2024	20 Nov 2023	21 Jul 2023
Machine Age	hrs	Client Info	155449	152173	149525
Oil Age	hrs	Client Info	0	0	12096
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ABNORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >8	0	14	13
Chromium	ppm	ASTM D5185m >2	<1	<1	0
Nickel	ppm	ASTM D5185m	<1	<1	<1
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >3	0	<1	0
Lead	ppm	ASTM D5185m >2	0	<1	0
Copper	ppm	ASTM D5185m >8	0	<1	<1
Tin	ppm	ASTM D5185m >4	0	<1	0
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	<1	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0
Barium	ppm	ASTM D5185m	0	<1	2
Molybdenum	ppm	ASTM D5185m	0	<1	0
Manganese	ppm	ASTM D5185m	0	<1	0
Magnesium	ppm	ASTM D5185m	<1	0	0
Calcium	ppm	ASTM D5185m	0	0	0
Phosphorus	ppm	ASTM D5185m	0	0	0
Zinc	ppm	ASTM D5185m	0	0	<1
Sulfur	ppm	ASTM D5185m	0	0	0

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	0	<1	0
Sodium	ppm	ASTM D5185m	0	0	0
Potassium	ppm	ASTM D5185m >20	1	<1	0
Water	%	ASTM D6304 >0.01	0.001	0.001	0.001
ppm Water	ppm	ASTM D6304 >100	13	0	10.0

FLUID CLEANLINESS

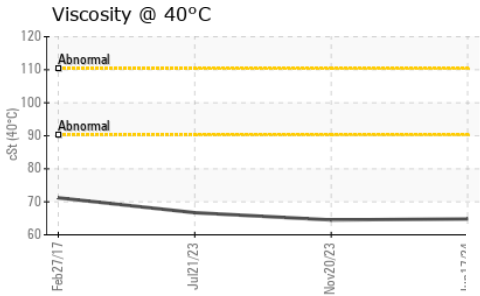
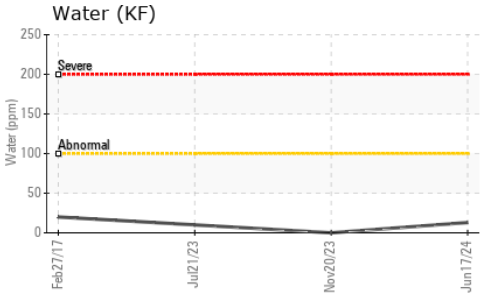
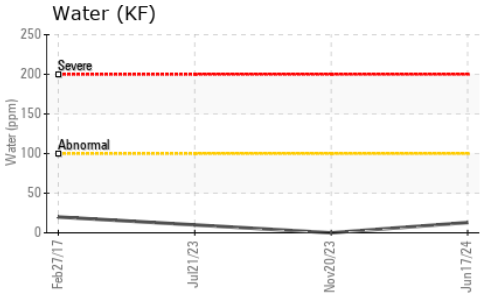
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	---	2833	6505
Particles >6µm	ASTM D7647	>2500	---	540	1860
Particles >14µm	ASTM D7647	>320	---	14	76
Particles >21µm	ASTM D7647	>80	---	4	8
Particles >38µm	ASTM D7647	>20	---	0	0
Particles >71µm	ASTM D7647	>4	---	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/15	---	19/16/11	20/18/13

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974	0.014	0.04	0.029



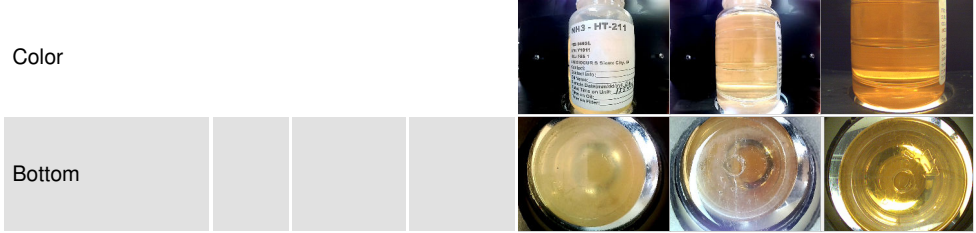
OIL ANALYSIS REPORT



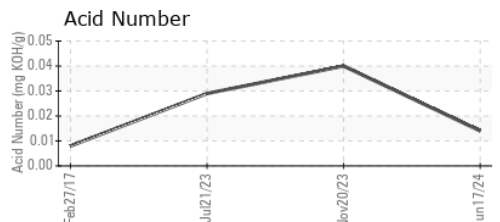
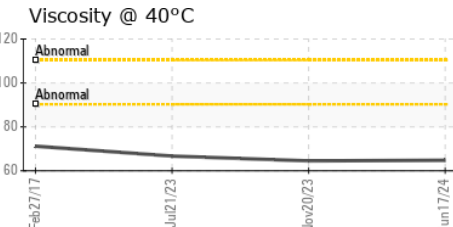
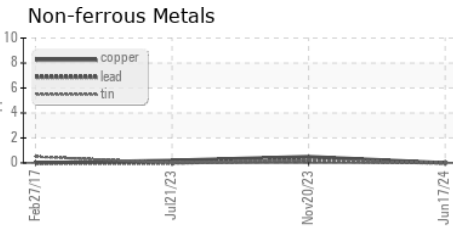
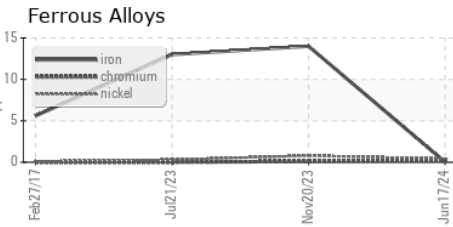
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	▲ MODER	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	64.8	64.5	66.7

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0013033 **Received** : 26 Jun 2024
Lab Number : **06221279** **Tested** : 27 Jun 2024
Unique Number : 11099476 **Diagnosed** : 27 Jun 2024 - Doug Bogart
Test Package : IND 2

SMITHFIELD - SIOUX CITY
 1000 CUNNINGHAM DR
 SIOUX CITY, IA
 US 51106
 Contact: D PEARSON

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)

T:
F: