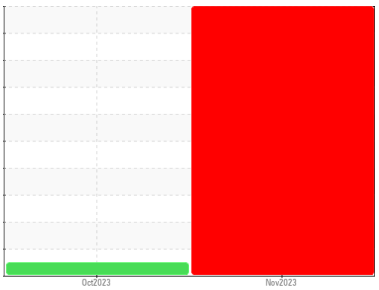
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
CHAD STEELE
Machine Id
19-064S13-2 - 180
Component
Hydraulic System
Fluid
NOT GIVEN (--- QTS)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to insufficient sample.

Wear
The copper level is severe.

Contamination
Elemental level of silicon (Si) above normal.

Fluid Condition
The AN level is at the top-end of the recommended limit.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0837624**	WC0837685	---
Sample Date		Client Info		**15 Nov 2023**	04 Oct 2023	---
Machine Age	hrs	Client Info		**0**	0	---
Oil Age	hrs	Client Info		**0**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**SEVERE**	NORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	<1	---
Chromium	ppm	ASTM D5185m	>10	**0**	<1	---
Nickel	ppm	ASTM D5185m	>10	**0**	<1	---
Titanium	ppm	ASTM D5185m		**0**	0	---
Silver	ppm	ASTM D5185m		**0**	0	---
Aluminum	ppm	ASTM D5185m	>10	**0**	1	---
Lead	ppm	ASTM D5185m	>10	**0**	0	---
Copper	ppm	ASTM D5185m	>75	**2821**	0	---
Tin	ppm	ASTM D5185m	>10	**<1**	0	---
Vanadium	ppm	ASTM D5185m		**0**	<1	---
Cadmium	ppm	ASTM D5185m		**0**	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**70**	80	---
Barium	ppm	ASTM D5185m		**0**	0	---
Molybdenum	ppm	ASTM D5185m		**0**	0	---
Manganese	ppm	ASTM D5185m		**0**	0	---
Magnesium	ppm	ASTM D5185m		**1**	1	---
Calcium	ppm	ASTM D5185m		**416**	354	---
Phosphorus	ppm	ASTM D5185m		**395**	315	---
Zinc	ppm	ASTM D5185m		**0**	0	---
Sulfur	ppm	ASTM D5185m		**800**	901	---

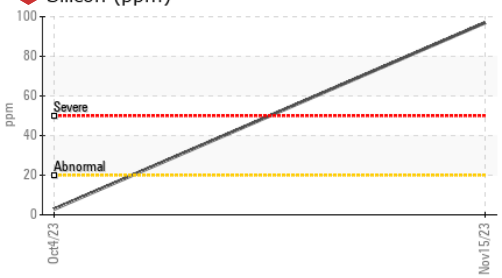
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**97**	3	---
Sodium	ppm	ASTM D5185m		**<1**	4	---
Potassium	ppm	ASTM D5185m	>20	**0**	<1	---
Water	%	ASTM D6304	>0.1	**0.028**	0.031	---
ppm Water	ppm	ASTM D6304	>1000	**287.4**	313.4	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**---**	1787	---
Particles >6µm		ASTM D7647	>1300	**---**	408	---
Particles >14µm		ASTM D7647	>160	**---**	68	---
Particles >21µm		ASTM D7647	>40	**---**	26	---
Particles >38µm		ASTM D7647	>10	**---**	2	---
Particles >71µm		ASTM D7647	>3	**---**	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**---**	18/16/13	---

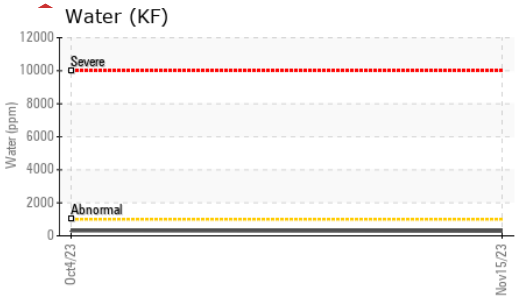
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**3.565**	2.14	---

OIL ANALYSIS REPORT

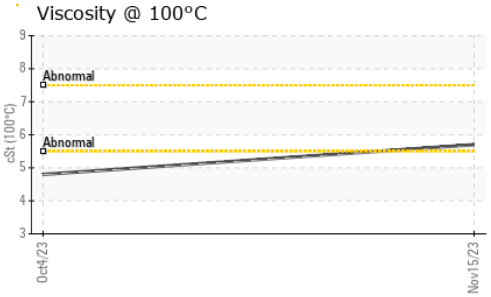
Silicon (ppm)



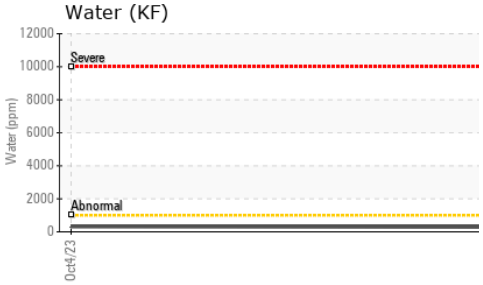
Water (KF)



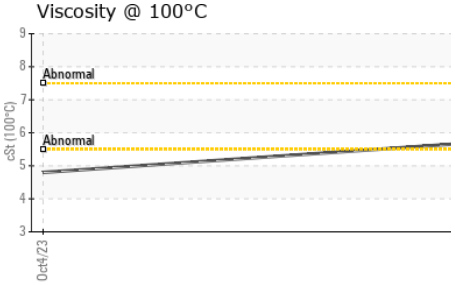
Viscosity @ 100°C



Water (KF)

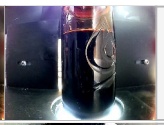
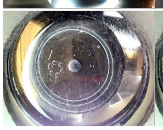


Viscosity @ 100°C



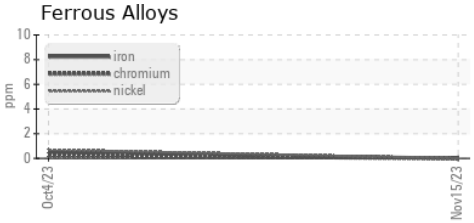
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**NONE**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445		**27.5**	20.3	---
Visc @ 100°C	cSt	ASTM D445		**5.7**	4.8	---
Viscosity Index (VI)	Scale	ASTM D2270		**154**	167	---

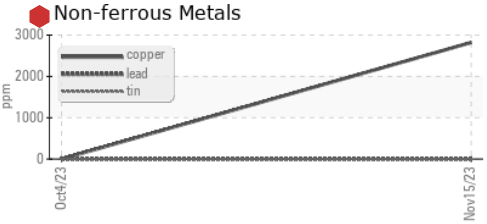
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

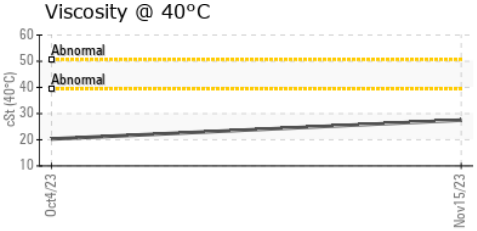
Ferrous Alloys



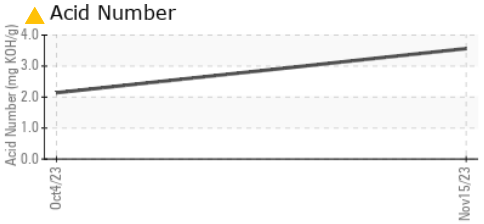
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0837624 **Received** : 16 Nov 2023
Lab Number : 06010207 **Diagnosed** : 20 Nov 2023
Unique Number : 10749351 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: KF, KV100, 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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