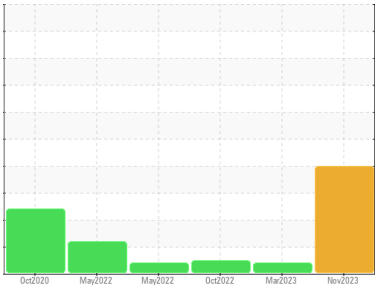
PROBLEM SUMMARY

Sample Rating Trend

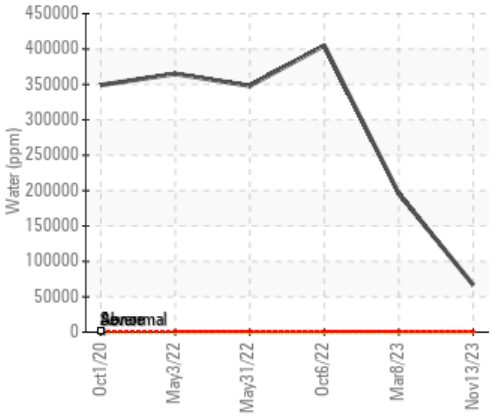


WATER

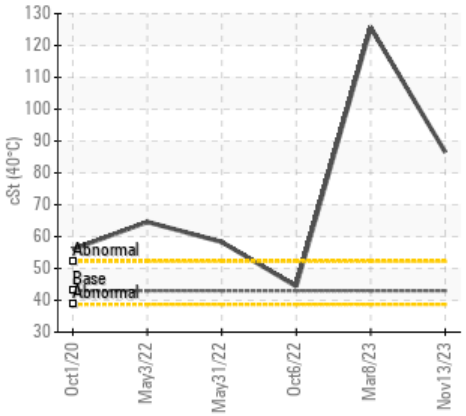
Machine Id
DS4
Component
Hydraulic System
Fluid
HOUGHTON HOUGHTON SAFE 419 (--- GAL)

COMPONENT CONDITION SUMMARY

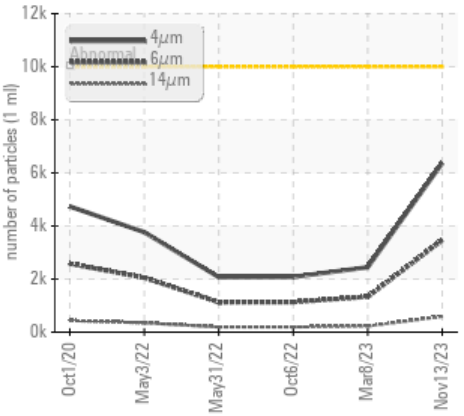
▲ Water (KF)



▲ Viscosity @ 40°C



▲ Particle Trend



RECOMMENDATION

We advise that you replenish the water content and add per manufacturer`s recommendations.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ATTENTION**	ATTENTION	NORMAL
Water	%	ASTM D6304	>44	▲ **18.2**	19.6	40.5
ppm Water	ppm	ASTM D6304		▲ **66713.5**	196000	405000
Particles >6µm		ASTM D7647	>2500	▲ **3469**	1332	1134
Particles >14µm		ASTM D7647	>320	▲ **590**	227	193
Particles >21µm		ASTM D7647	>80	▲ **199**	76	65
Particles >38µm		ASTM D7647	>20	▲ **31**	12	10
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **20/19/16**	18/18/15	18/17/15
Visc @ 40°C	cSt	ASTM D445	43.0	▲ **86.52**	▲ 125.6	44.4

Customer Id: TYSHOP
Sample No.: USP0003452
Lab Number: 06006389
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
Service/change Fluid	---	---	?	We advise that you replenish the supplemental coolant additives (SCAs) and add per manufacturer's recommendations.

HISTORICAL DIAGNOSIS

08 Mar 2023 Diag: Doug Bogart

VISCOSITY

We advise that you replenish the water content and add per manufacturer`s recommendations. Resample at the next service interval to monitor.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 water content is lower than normal. The oil viscosity is higher than normal. The pH level of this fluid is within the acceptable limits.

view report

06 Oct 2022 Diag: Doug Bogart

NORMAL

Resample at the next service interval to monitor.An increase in the iron level is noted. 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 pH level of this fluid is within the acceptable limits at 7.0. The condition of the oil is acceptable for the time in service.

view report

31 May 2022 Diag: Jonathan Hester

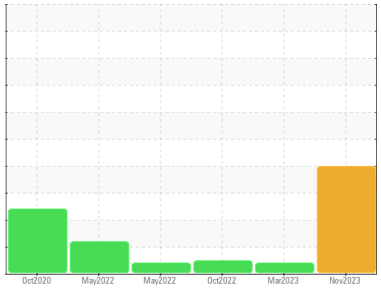
PH

Resample at the next service interval to monitor.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 pH is low at 6.0. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
DS4
Component
Hydraulic System
Fluid
HOUGHTON HOUGHTON SAFE 419 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you replenish the water content and add per manufacturer`s recommendations. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a moderate amount of particulates present in the oil.

Fluid Condition
The water content is lower than normal. The oil viscosity is higher than normal. The pH level of this fluid is within the acceptable limits.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**USP0003452**	USP05787398	USP234550
Sample Date		Client Info		**13 Nov 2023**	08 Mar 2023	06 Oct 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**	ATTENTION	NORMAL

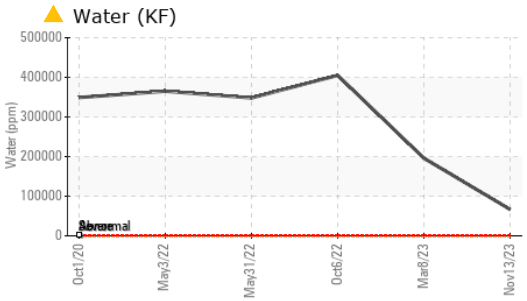
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**0**	3	16
Chromium	ppm	ASTM D5185m	>20	**0**	<1	<1
Nickel	ppm	ASTM D5185m	>20	**0**	<1	5
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	1	<1
Lead	ppm	ASTM D5185m	>20	**0**	<1	<1
Copper	ppm	ASTM D5185m	>20	**2**	1	2
Tin	ppm	ASTM D5185m	>20	**0**	<1	0
Vanadium	ppm	ASTM D5185m		**0**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	<1	2

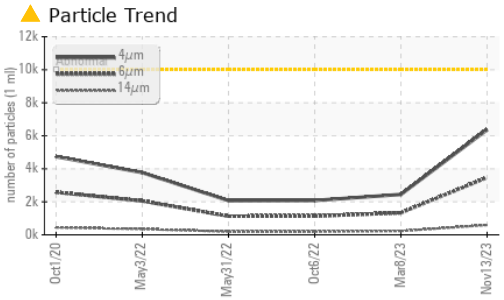
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**0**	5	14
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	0	<1
Magnesium	ppm	ASTM D5185m		**0**	<1	2
Calcium	ppm	ASTM D5185m		**0**	2	8
Phosphorus	ppm	ASTM D5185m		**4**	7	36
Zinc	ppm	ASTM D5185m		**0**	2	12
Sulfur	ppm	ASTM D5185m		**0**	0	76

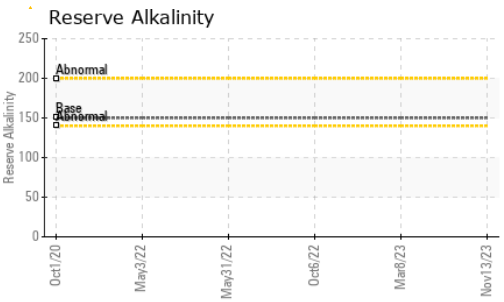
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**0**	1	2
Sodium	ppm	ASTM D5185m		**0**	4	4
Potassium	ppm	ASTM D5185m	>20	**4**	22	48
Water	%	ASTM D6304	>44	▲ **18.2**	19.6	40.5
ppm Water	ppm	ASTM D6304		▲ **66713.5**	196000	405000

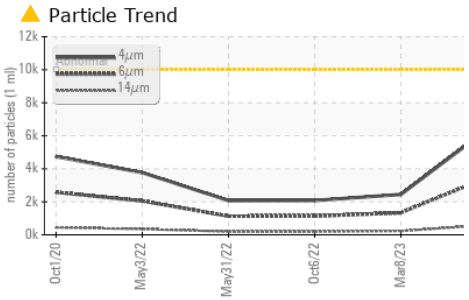
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**6368**	2445	2081
Particles >6µm		ASTM D7647	>2500	▲ **3469**	1332	1134
Particles >14µm		ASTM D7647	>320	▲ **590**	227	193
Particles >21µm		ASTM D7647	>80	▲ **199**	76	65
Particles >38µm		ASTM D7647	>20	▲ **31**	12	10
Particles >71µm		ASTM D7647	>4	**3**	1	1
Oil Cleanliness		ISO 4406 (c)	>20/18/15	▲ **20/19/16**	18/18/15	18/17/15

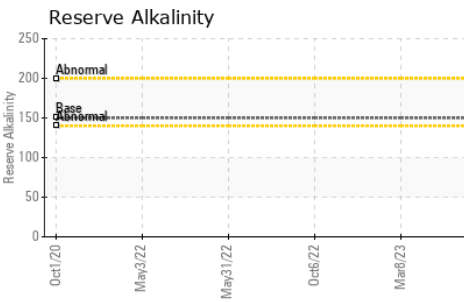
OIL ANALYSIS REPORT







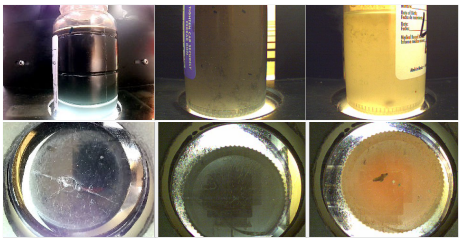




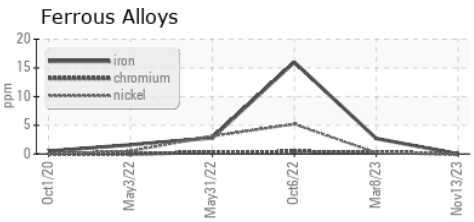
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	LIGHT	VLITE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>44	**NEG**	0.2%	0.2%
Free Water	scalar	*Visual		**NEG**	NEG	NEG

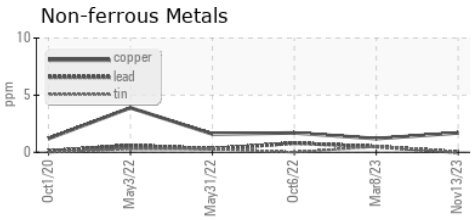
FLUID PROPERTIES		method	limit/base	current	history1	history2
pH	Scale 0-14	ASTM D1287		**7.00**	7.00	7.00
Visc @ 40°C	cSt	ASTM D445	43.0	▲ **86.52**	▲ 125.6	44.4

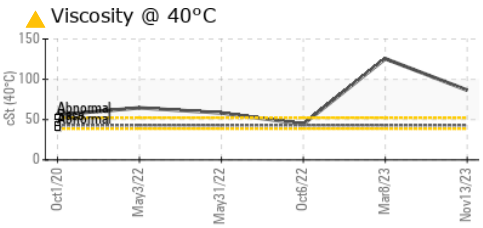
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

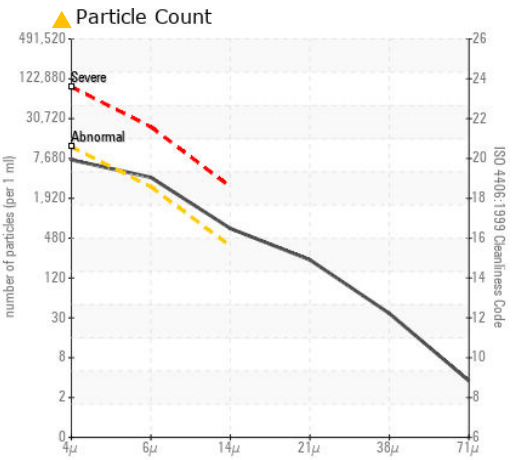


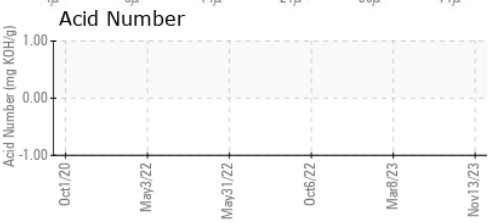
GRAPHS











Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0003452 **Received** : 13 Nov 2023
Lab Number : 06006389 **Diagnosed** : 16 Nov 2023
Unique Number : 10740151 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: pH, ReserveAlk)

Certificate L2367

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)

TYSON-HOPE-USP
HOPE, AR
US
Contact: JAMES WEST
T:
F: