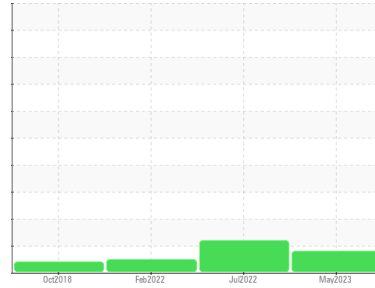




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
28801105 - ABC

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) 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	WC0778146	WC0679459	WC0636204
Sample Date	Client Info	09 May 2023	12 Jul 2022	17 Feb 2022
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	Not Changed	Not Changd	Not Changed
Sample Status		ATTENTION	ABNORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >20	6	7	6
Chromium	ppm	ASTM D5185m >10	2	3	2
Nickel	ppm	ASTM D5185m >10	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	<1
Aluminum	ppm	ASTM D5185m >10	0	<1	<1
Lead	ppm	ASTM D5185m >10	0	0	<1
Copper	ppm	ASTM D5185m >75	<1	2	2
Tin	ppm	ASTM D5185m >10	0	0	<1
Antimony	ppm	ASTM D5185m	---	---	---
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 5	0	<1	<1
Barium	ppm	ASTM D5185m 5	0	0	0
Molybdenum	ppm	ASTM D5185m 5	0	<1	<1
Manganese	ppm	ASTM D5185m	<1	0	0
Magnesium	ppm	ASTM D5185m 25	3	2	2
Calcium	ppm	ASTM D5185m 200	65	70	66
Phosphorus	ppm	ASTM D5185m 300	333	331	293
Zinc	ppm	ASTM D5185m 370	403	401	356
Sulfur	ppm	ASTM D5185m 2500	3873	2852	1927

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >20	<1	<1	<1
Sodium	ppm	ASTM D5185m	0	1	0
Potassium	ppm	ASTM D5185m >20	<1	0	1

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 6715	▲ 14180	4620
Particles >6µm	ASTM D7647 >1300	964	▲ 1502	285
Particles >14µm	ASTM D7647 >160	108	50	33
Particles >21µm	ASTM D7647 >40	34	15	7
Particles >38µm	ASTM D7647 >10	1	0	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 20/17/14	▲ 21/18/13	19/15/12

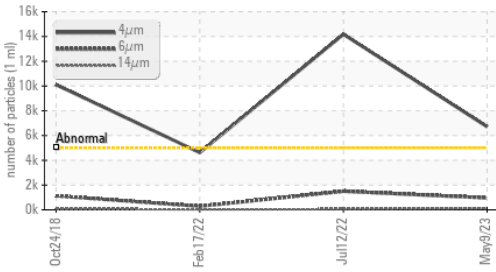
FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.57	0.27	0.24	0.27

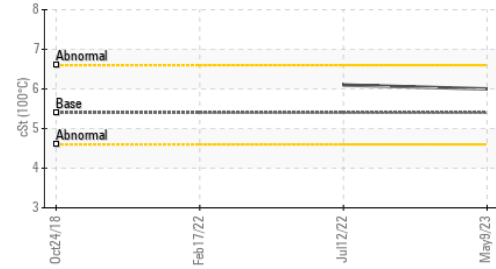


OIL ANALYSIS REPORT

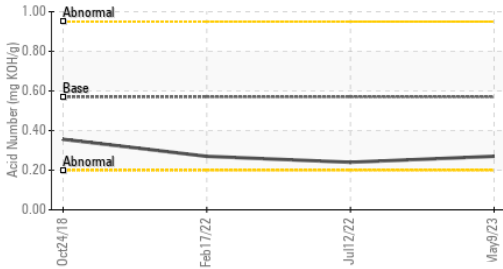
Particle Trend



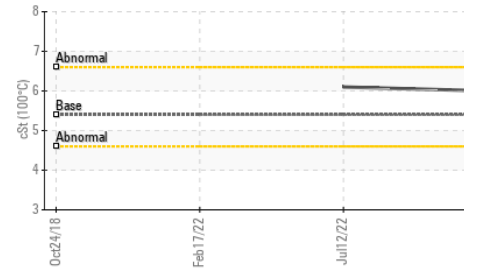
Viscosity @ 100°C



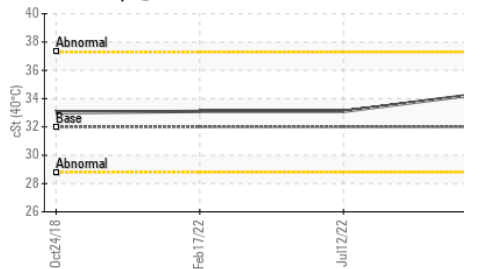
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C

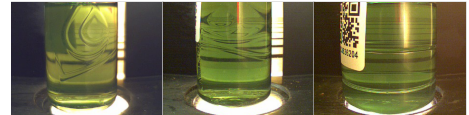


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

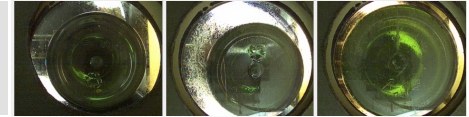
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	33.1	33.1
Visc @ 100°C	cSt	ASTM D445	5.4	6	---
Viscosity Index (VI)	Scale	ASTM D2270	102	133	---

SAMPLE IMAGES

Color

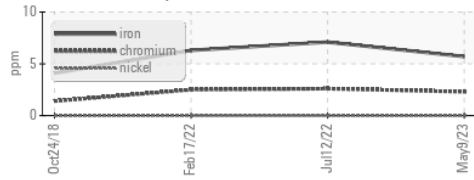


Bottom

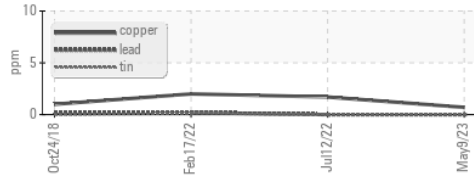


GRAPHS

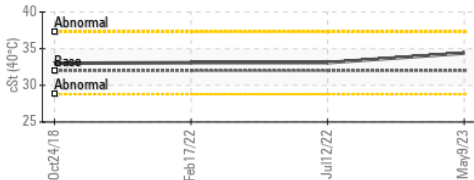
Ferrous Alloys



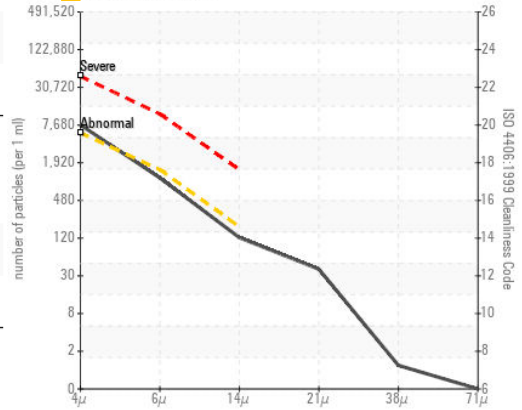
Non-ferrous Metals



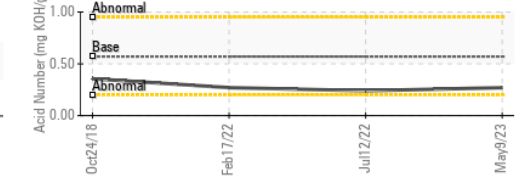
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0778146 Received : 14 Aug 2023
 Lab Number : 05924223 Diagnosed : 15 Aug 2023
 Unique Number : 10604170 Diagnostician : Wes Davis
 Test Package : MOB 2 (Additional Tests: 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)

HIAB USA - HAGERSTOWN
 148 WESTERN MARYLAND PKWY
 HAGERSTOWN, MD
 US 21740

Contact: CHUCK WISHARD
CHUCK.WISHARD@HIAB.COM

T: (240)625-0045

F: (301)797-7284