



OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
HIAB 2350603 - SHAW
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 32 (--- QTS)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 46 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0778183	---	---
Sample Date	Client Info	15 Feb 2024	---	---
Machine Age	yrs Client Info	0	---	---
Oil Age	yrs Client Info	0	---	---
Oil Changed	Client Info	Not Changed	---	---
Sample Status		ABNORMAL	---	---

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	NEG	---	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >20	10	---	---
Chromium	ppm ASTM D5185m >10	<1	---	---
Nickel	ppm ASTM D5185m >10	0	---	---
Titanium	ppm ASTM D5185m	<1	---	---
Silver	ppm ASTM D5185m	0	---	---
Aluminum	ppm ASTM D5185m >10	1	---	---
Lead	ppm ASTM D5185m >10	<1	---	---
Copper	ppm ASTM D5185m >75	2	---	---
Tin	ppm ASTM D5185m >10	<1	---	---
Vanadium	ppm ASTM D5185m	0	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 5	9	---	---
Barium	ppm ASTM D5185m 5	0	---	---
Molybdenum	ppm ASTM D5185m 5	<1	---	---
Manganese	ppm ASTM D5185m	0	---	---
Magnesium	ppm ASTM D5185m 25	9	---	---
Calcium	ppm ASTM D5185m 200	405	---	---
Phosphorus	ppm ASTM D5185m 300	357	---	---
Zinc	ppm ASTM D5185m 370	430	---	---
Sulfur	ppm ASTM D5185m 2500	3044	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	3	---	---
Sodium	ppm ASTM D5185m	1	---	---
Potassium	ppm ASTM D5185m >20	2	---	---

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >5000	▲ 35268	---	---
Particles >6µm	ASTM D7647 >1300	● 1517	---	---
Particles >14µm	ASTM D7647 >160	64	---	---
Particles >21µm	ASTM D7647 >40	21	---	---
Particles >38µm	ASTM D7647 >10	1	---	---
Particles >71µm	ASTM D7647 >3	0	---	---
Oil Cleanliness	ISO 4406 (c) >19/17/14	▲ 22/18/13	---	---

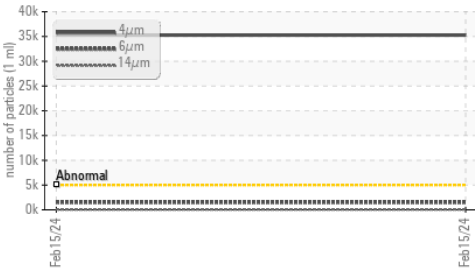
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.57	0.41	---	---



OIL ANALYSIS REPORT

Particle Trend



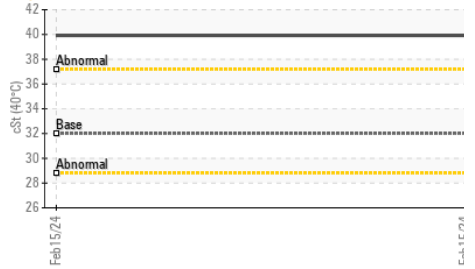
Viscosity @ 100°C



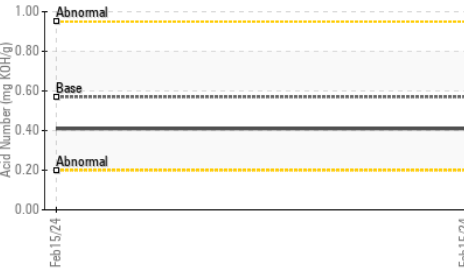
Viscosity @ 100°C



Viscosity @ 40°C



Acid Number



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

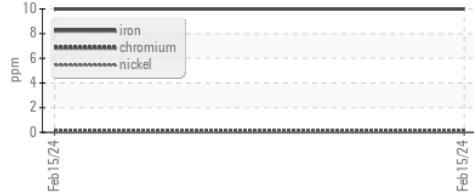
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	39.92	---
Visc @ 100°C	cSt	ASTM D445	5.4	6.7	---
Viscosity Index (VI)	Scale	ASTM D2270	102	123	---

SAMPLE IMAGES

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

GRAPHS

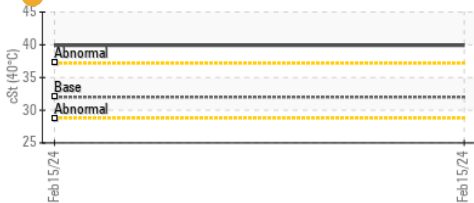
Ferrous Alloys



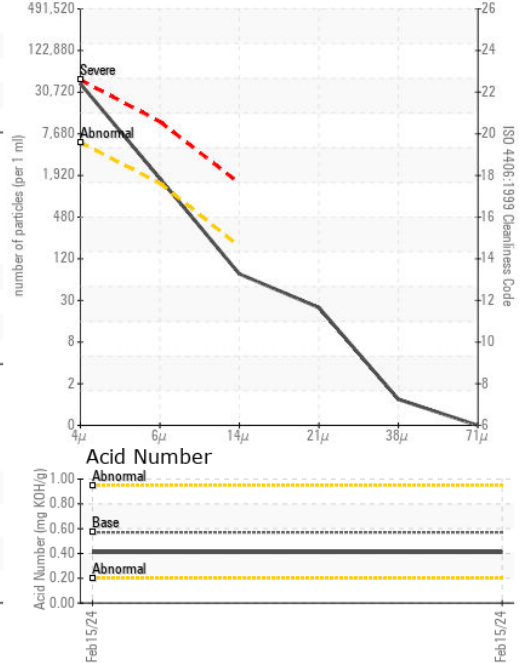
Non-ferrous Metals



Viscosity @ 40°C



Particle Count



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : WC0778183

Lab Number : 06199074

Unique Number : 11061197

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)

Received : 04 Jun 2024

Tested : 07 Jun 2024

Diagnosed : 10 Jun 2024 - Jonathan Hester

HIAB USA - MIDATLANTIC

18627 STARCREEK DR

CORNELIUS, NC

US 28031

Contact: JOHN MORRIS

john.morris@hiab.com

T: (704)883-4328

F: (704)895-4801