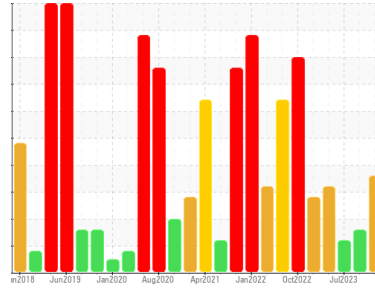




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
Utilities
 Machine Id
Keeler Feedwater Turbine East
 Component
Case Drain Turbine
 Fluid
ROYAL PURPLE SYNFILM 46 (1 GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. All other component wear rates are normal.

Contamination

There is a high amount of particulates present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0783918	WC0726076	WC0816925
Sample Date	Client Info		24 Jan 2024	30 Oct 2023	26 Jul 2023
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			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.03	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>15	<1	0	<1
Chromium	ppm	ASTM D5185m	>4	0	0	0
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	0	0	<1
Lead	ppm	ASTM D5185m		0	<1	0
Copper	ppm	ASTM D5185m	>5	▲ 23	12	▲ 30
Tin	ppm	ASTM D5185m	>5	5	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		5	8	12
Calcium	ppm	ASTM D5185m		0	1	3
Phosphorus	ppm	ASTM D5185m		<1	<1	10
Zinc	ppm	ASTM D5185m		2	5	10
Sulfur	ppm	ASTM D5185m		16315	17914	21136

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	<1	<1	0
Sodium	ppm	ASTM D5185m		<1	<1	0
Potassium	ppm	ASTM D5185m	>20	<1	1	2

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 52549	474	---
Particles >6µm	ASTM D7647	>640	▲ 9369	93	---
Particles >14µm	ASTM D7647	>80	▲ 544	13	---
Particles >21µm	ASTM D7647	>20	▲ 221	5	---
Particles >38µm	ASTM D7647	>4	▲ 45	1	---
Particles >71µm	ASTM D7647	>3	▲ 6	1	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 23/20/16	16/14/11	---

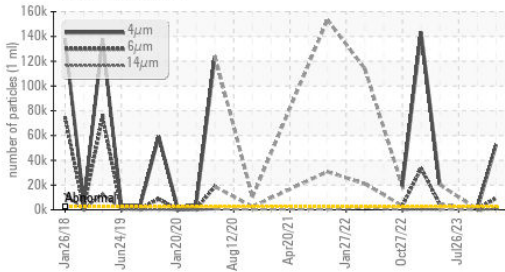
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	0.25	0.27	0.25	0.34

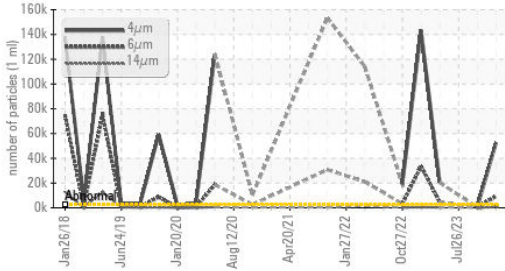


OIL ANALYSIS REPORT

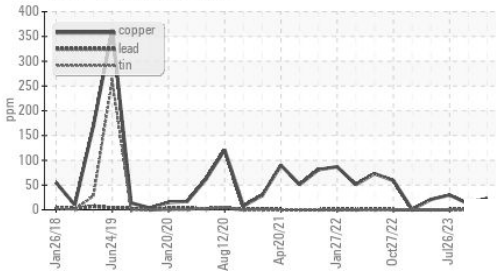
▲ Particle Trend



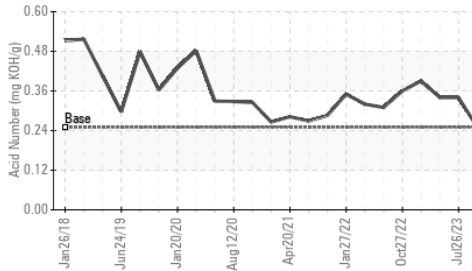
▲ Particle Trend



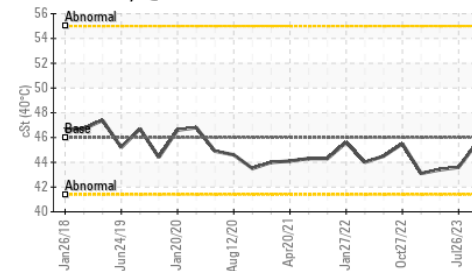
▲ Non-ferrous Metals



Acid Number



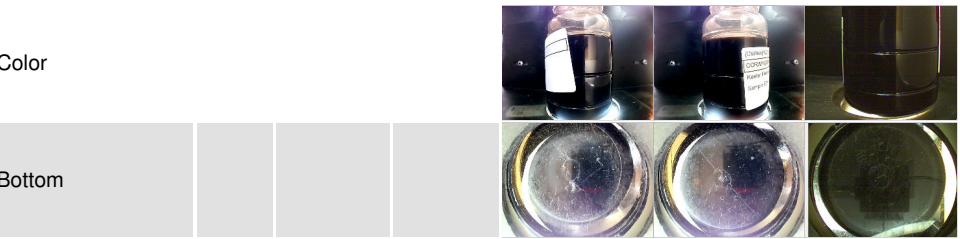
Viscosity @ 40°C



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	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.03	NEG	▲ 0.2%
Free Water	scalar	*Visual		NEG	NEG

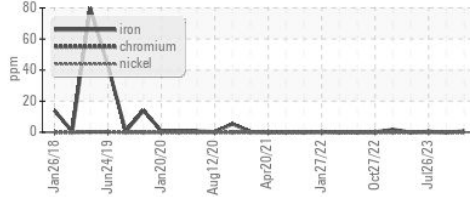
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	48.5	45.6	43.6

SAMPLE IMAGES

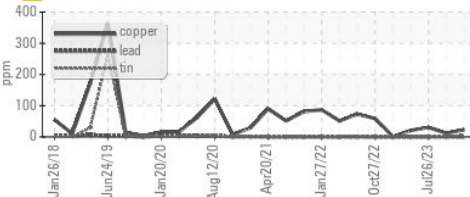


GRAPHS

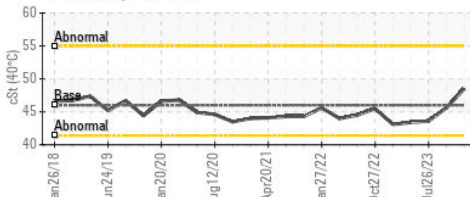
Ferrous Alloys



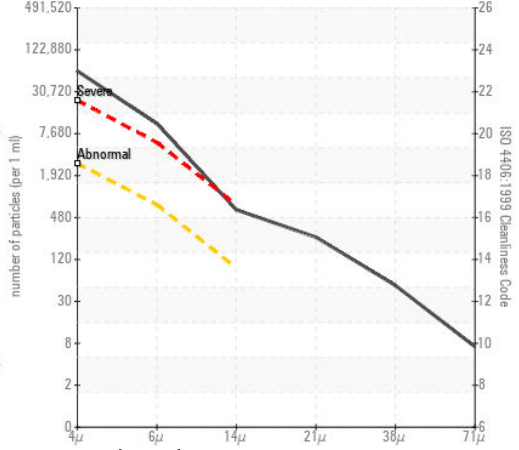
Non-ferrous Metals



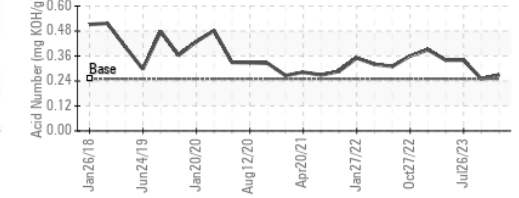
Viscosity @ 40°C



▲ Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0783918 **Received** : 31 Jan 2024
Lab Number : 06075731 **Diagnosed** : 01 Feb 2024
Unique Number : 10857822 **Diagnostician** : Don Baldrige
Test Package : IND 2

INGREDION INC
 WINSTON SALEM PLANT, 4501 OVERDALE ROAD
 WINSTON SALEM, NC
 US 27107
 Contact: MATTHEW KING
 matthew.king@ingredion.com
 T:
 F: (336)785-8809

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)