



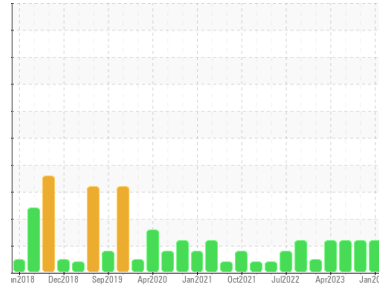
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
Wetstarch
 Machine Id
#6 Vetter
 Component
Case Drain Gearbox
 Fluid
ROYAL PURPLE SYNERGY 90/220 (60 GAL)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0886157	WC0816913	WC0635855
Sample Date	Client Info		24 Jan 2024	30 Oct 2023	26 Jul 2023
Machine Age	mths	Client Info	0	0	0
Oil Age	mths	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	>0.2	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>200	33	35	25
Chromium	ppm	ASTM D5185m	>15	<1	0	<1
Nickel	ppm	ASTM D5185m	>15	0	<1	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>25	<1	<1	1
Lead	ppm	ASTM D5185m	>100	0	0	2
Copper	ppm	ASTM D5185m	>200	0	<1	0
Tin	ppm	ASTM D5185m	>25	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1

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	<1
Magnesium	ppm	ASTM D5185m		0	<1	3
Calcium	ppm	ASTM D5185m		8	11	6
Phosphorus	ppm	ASTM D5185m	370	244	276	181
Zinc	ppm	ASTM D5185m		0	0	0
Sulfur	ppm	ASTM D5185m		13136	14362	15643

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>50	7	8	2
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	>20000	▲ 78749	▲ 70878	---
Particles >6µm	ASTM D7647	>5000	▲ 8557	▲ 9376	---
Particles >14µm	ASTM D7647	>640	176	178	---
Particles >21µm	ASTM D7647	>160	32	19	---
Particles >38µm	ASTM D7647	>40	0	0	---
Particles >71µm	ASTM D7647	>10	0	0	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 23/20/15	▲ 23/20/15	---

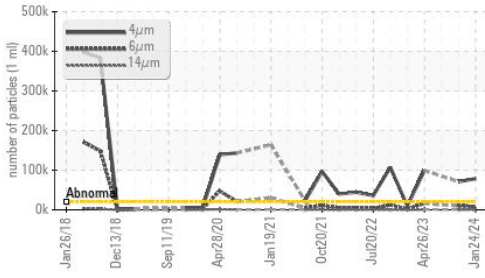
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045	1.33	0.57	0.51	0.53

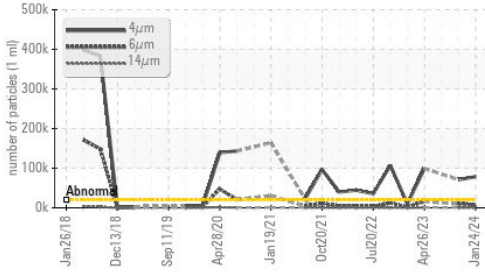


OIL ANALYSIS REPORT

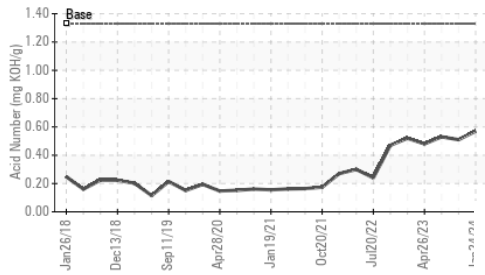
Particle Trend



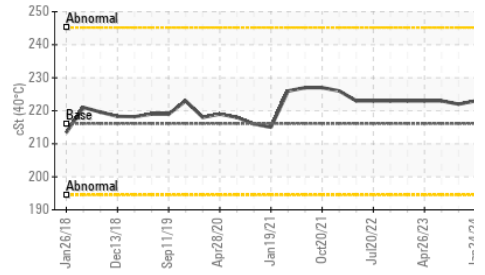
Particle Trend



Acid Number



Viscosity @ 40°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	▲ MODER
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	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	216.1	223	222

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------

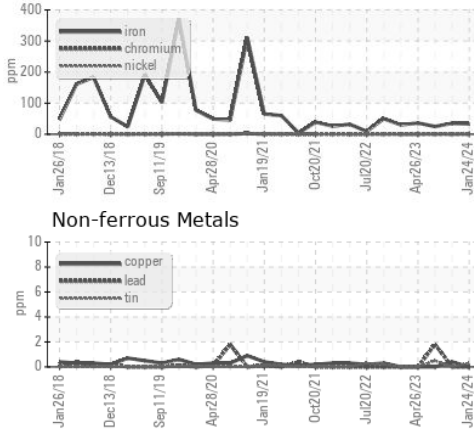
Color



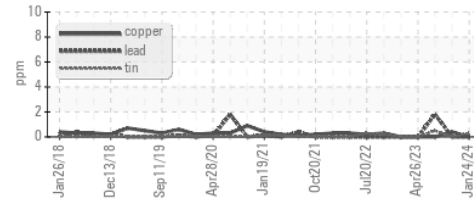
Bottom

GRAPHS

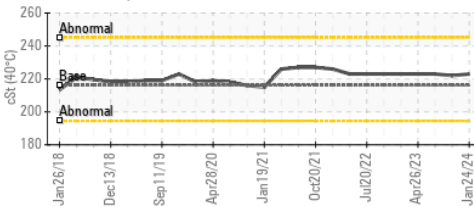
Ferrous Alloys



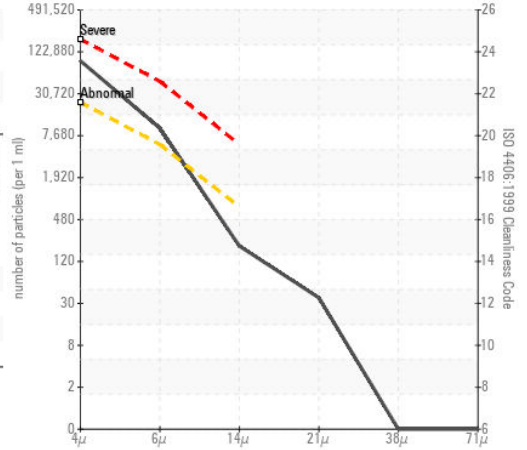
Non-ferrous Metals



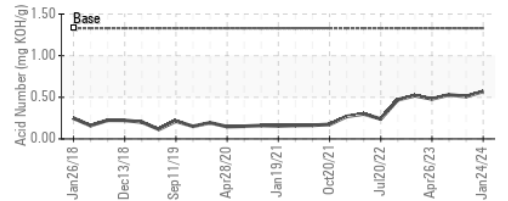
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

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

Sample No. : WC0886157

Lab Number : 06075742

Unique Number : 10857833

Test Package : IND 2 (Additional Tests: PrtCount)

Received : 31 Jan 2024

Tested : 06 Feb 2024

Diagnosed : 06 Feb 2024 - Wes Davis

INGREDION INC

WINSTON SALEM PLANT, 4501 OVERDALE ROAD

WINSTON SALEM, NC

US 27107

Contact: MATTHEW KING

matthew.king@ingredion.com

T:

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)

F: (336)785-8809