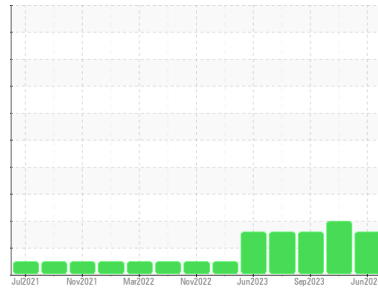




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
9A (S/N C6312)
 Component
Vacuum Pump
 Fluid
USPI VAC 100 (--- GAL)

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

Contamination
 Elemental level of silicon (Si) above normal. The amount and size of particulates present in the system are acceptable.

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		USPM36390	USPM30809	USPM29816
Sample Date	Client Info		02 Jun 2024	29 Jan 2024	27 Sep 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			MARGINAL	ABNORMAL	MARGINAL

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	<1	8	9
Chromium	ppm	ASTM D5185m >20	0	<1	0
Nickel	ppm	ASTM D5185m >20	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >20	0	0	<1
Lead	ppm	ASTM D5185m >20	0	<1	<1
Copper	ppm	ASTM D5185m >20	0	<1	0
Tin	ppm	ASTM D5185m >20	0	<1	<1
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 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 0	0	<1	0
Manganese	ppm	ASTM D5185m	0	0	0
Magnesium	ppm	ASTM D5185m 0	0	0	0
Calcium	ppm	ASTM D5185m 0	0	0	0
Phosphorus	ppm	ASTM D5185m 1800	787	497	699
Zinc	ppm	ASTM D5185m 0	0	0	0
Sulfur	ppm	ASTM D5185m 0	0	0	0

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	▲ 27	30	▲ 30
Sodium	ppm	ASTM D5185m	2	0	1
Potassium	ppm	ASTM D5185m >20	0	2	2
Water	%	ASTM D6304 >.1	0.032	0.030	0.023
ppm Water	ppm	ASTM D6304 >1000	328	304	235.4

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	562	▲ 153166	157
Particles >6µm	ASTM D7647	>1300	205	▲ 69750	55
Particles >14µm	ASTM D7647	>160	28	▲ 1974	6
Particles >21µm	ASTM D7647	>40	9	▲ 111	2
Particles >38µm	ASTM D7647	>10	0	0	1
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	16/15/12	▲ 24/23/18	14/13/10

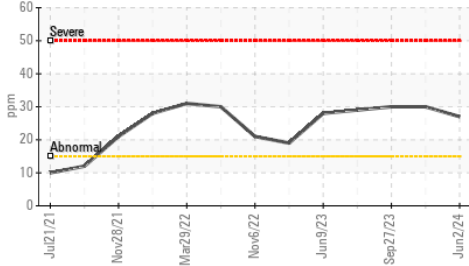
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.05	0.12	0.15	0.14

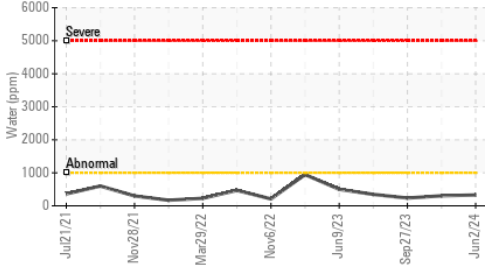


OIL ANALYSIS REPORT

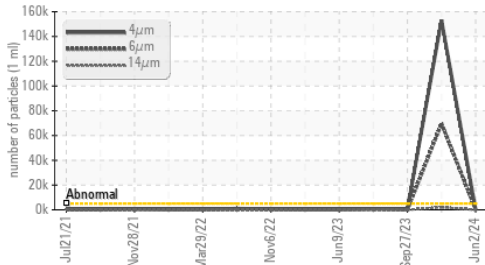
▲ Silicon (ppm)



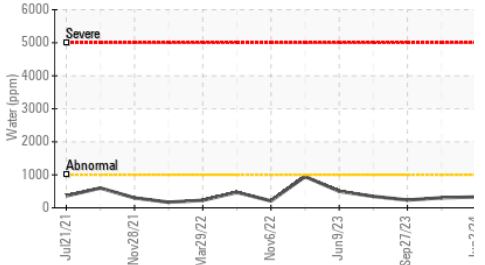
Water (KF)



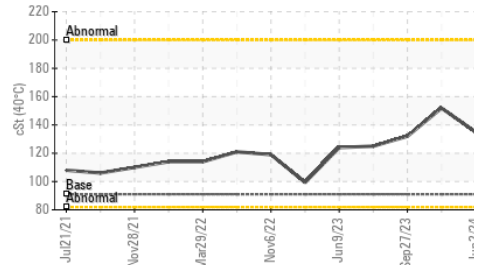
Particle Trend



Water (KF)



Viscosity @ 40°C

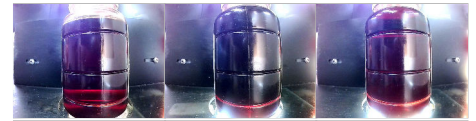


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 91	135	151.9	132

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

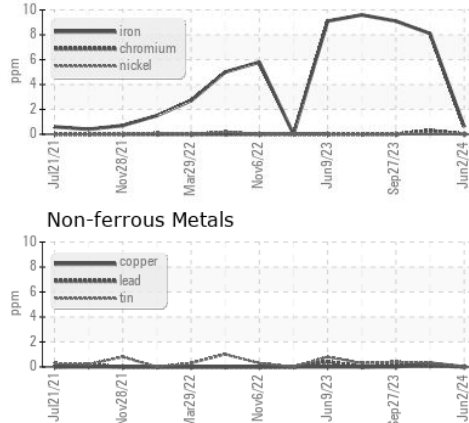


Bottom

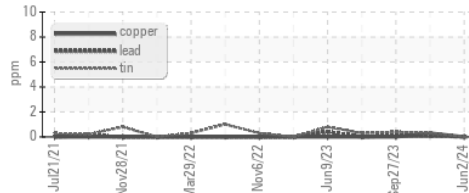


GRAPHS

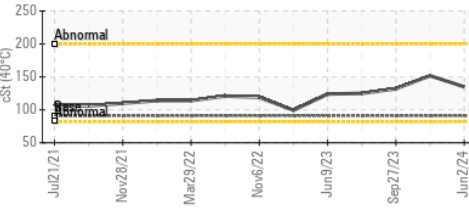
Ferrous Alloys



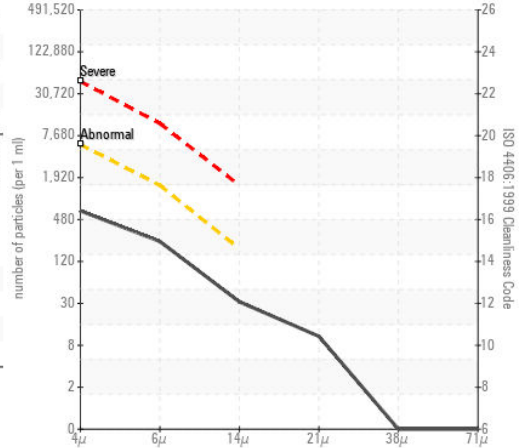
Non-ferrous Metals



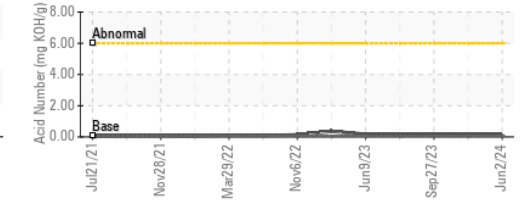
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

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

Sample No. : USPM36390

Lab Number : 06197693

Unique Number : 11059816

Test Package : IND 2

Received : 03 Jun 2024

Tested : 04 Jun 2024

Diagnosed : 05 Jun 2024 - Doug Bogart

CARGILL FORT MORGAN

1505 E BURLINGTON AVE

FORT MORGAN, CO

US 80701

Contact: JOE ROSENFELD

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)

T:

F: