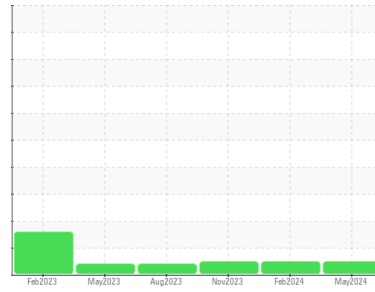




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
COLUMBIA MACHINE INC 190 PALLET EXCHANGER (S/N 2105-1324-1324)
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 32 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is 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			USPM36103	USP0007112	USP0003806
Sample Date	Client Info			09 May 2024	12 Feb 2024	26 Nov 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				NORMAL	NORMAL	NORMAL

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

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	5	0	0	0
Barium	ppm	ASTM D5185m	5	0	0	<1
Molybdenum	ppm	ASTM D5185m	5	0	0	<1
Manganese	ppm	ASTM D5185m		0	0	<1
Magnesium	ppm	ASTM D5185m	25	<1	0	0
Calcium	ppm	ASTM D5185m	200	5	0	5
Phosphorus	ppm	ASTM D5185m	300	277	284	288
Zinc	ppm	ASTM D5185m	370	57	49	47
Sulfur	ppm	ASTM D5185m	2500	423	366	342

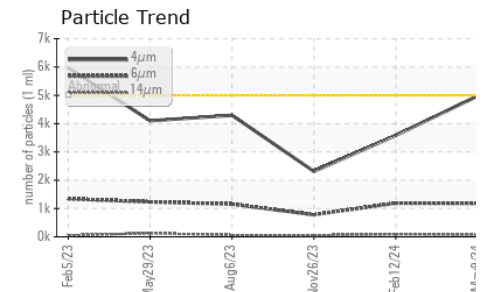
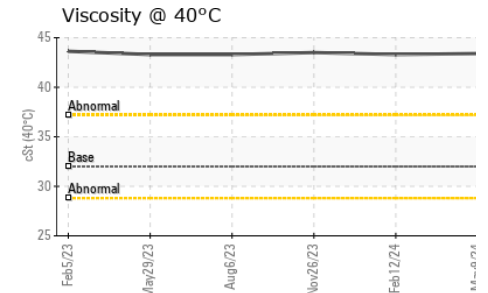
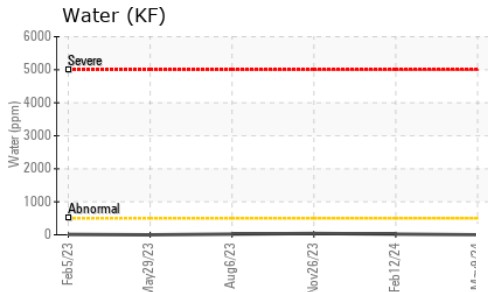
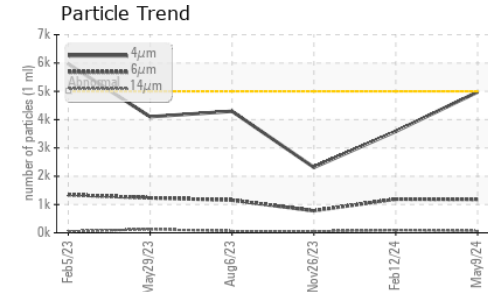
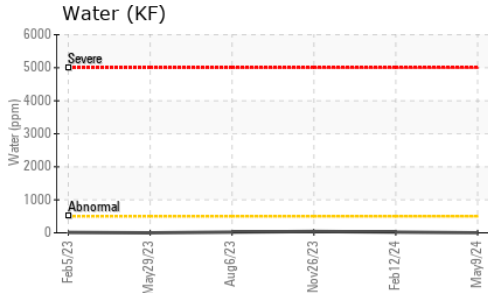
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	4	2	3
Sodium	ppm	ASTM D5185m		2	<1	0
Potassium	ppm	ASTM D5185m	>20	<1	0	1
Water	%	ASTM D6304	>0.05	0.00	0.002	0.004
ppm Water	ppm	ASTM D6304	>500	0	23	41

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	4976	3585	2313
Particles >6µm		ASTM D7647	>1300	1180	1188	779
Particles >14µm		ASTM D7647	>160	61	89	54
Particles >21µm		ASTM D7647	>40	12	15	10
Particles >38µm		ASTM D7647	>10	1	0	1
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	19/17/13	19/17/14	18/17/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.22	0.22	0.23



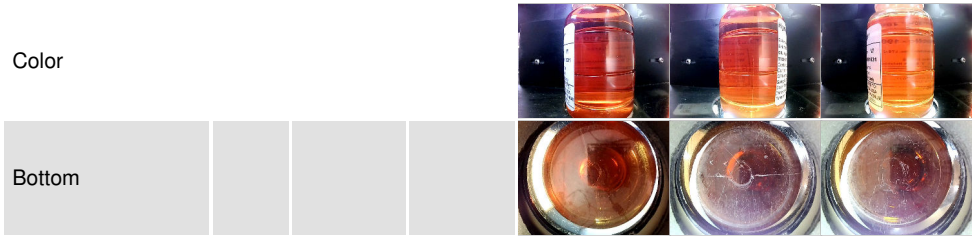
OIL ANALYSIS REPORT



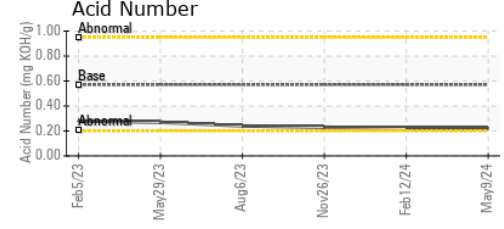
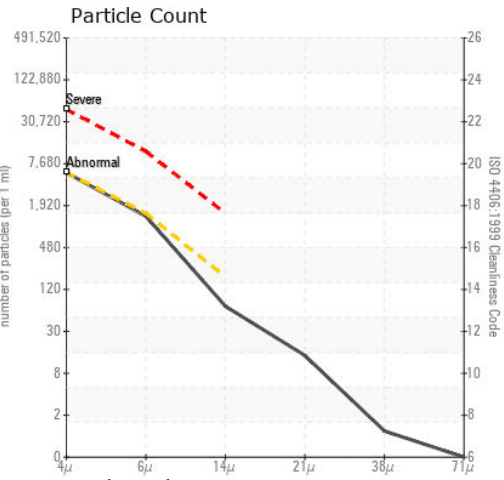
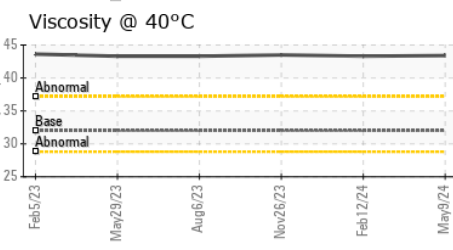
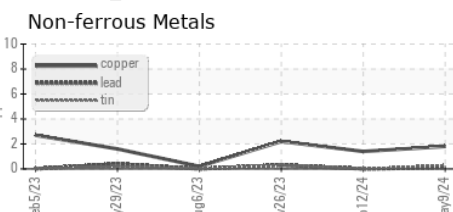
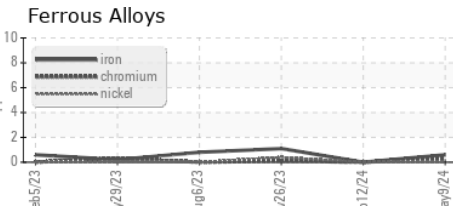
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	32	43.4	43.3

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USPM36103 **Received** : 10 May 2024
Lab Number : 06175500 **Tested** : 13 May 2024
Unique Number : 11021553 **Diagnosed** : 13 May 2024 - Doug Bogart
Test Package : IND 2

TYSON DOSK -HUTCHINSON - USP
 HUTCHINSON, KS
 US
 Contact: SCOTT OWEN

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)

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