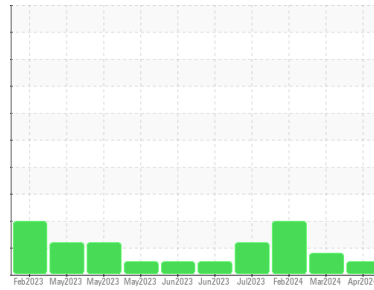




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

Co-Gen - Utilities

Machine Id

30-1030 HOG FUEL TRUCK DUMP

Component

Hydraulic System

Fluid

PENNZOIL DEXRON MERCON ATF FLUID (1200 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 oil. 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 acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PE0001547	PE0001550	PE0001534
Sample Date	Client Info		09 Apr 2024	25 Mar 2024	06 Feb 2024
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	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184		16	17	13
Iron	ppm	ASTM D5185m >20	<1	5	4
Chromium	ppm	ASTM D5185m >20	<1	1	1
Nickel	ppm	ASTM D5185m >20	0	0	0
Titanium	ppm	ASTM D5185m	0	<1	<1
Silver	ppm	ASTM D5185m	0	<1	0
Aluminum	ppm	ASTM D5185m >20	0	2	0
Lead	ppm	ASTM D5185m >20	3	4	3
Copper	ppm	ASTM D5185m >20	18	▲ 23	20
Tin	ppm	ASTM D5185m >20	<1	2	<1
Vanadium	ppm	ASTM D5185m	0	<1	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	63	69	62
Barium	ppm	ASTM D5185m	0	<1	0
Molybdenum	ppm	ASTM D5185m	0	0	0
Manganese	ppm	ASTM D5185m	0	0	<1
Magnesium	ppm	ASTM D5185m	0	1	0
Calcium	ppm	ASTM D5185m	81	90	76
Phosphorus	ppm	ASTM D5185m	228	253	209
Zinc	ppm	ASTM D5185m	2	11	6
Sulfur	ppm	ASTM D5185m	1010	1019	926

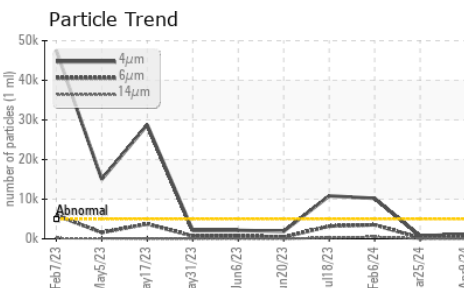
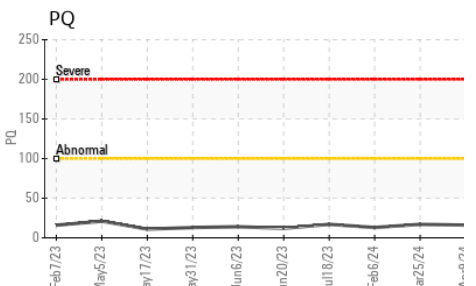
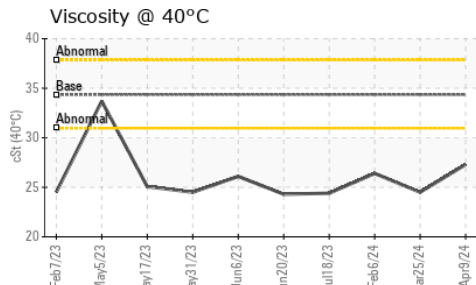
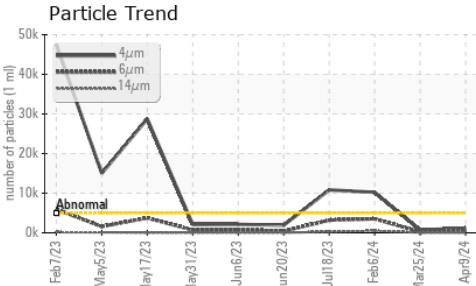
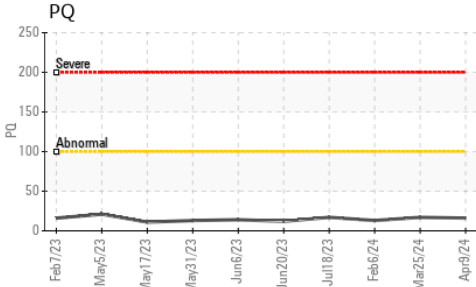
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	2	8	2
Sodium	ppm	ASTM D5185m	<1	<1	3
Potassium	ppm	ASTM D5185m >20	0	2	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	1179	724	▲ 10207
Particles >6µm	ASTM D7647	>1300	489	243	▲ 3539
Particles >14µm	ASTM D7647	>320	48	27	● 496
Particles >21µm	ASTM D7647	>80	15	8	● 140
Particles >38µm	ASTM D7647	>20	0	0	8
Particles >71µm	ASTM D7647	>4	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/15	17/16/13	17/15/12	▲ 21/19/16

OIL ANALYSIS REPORT

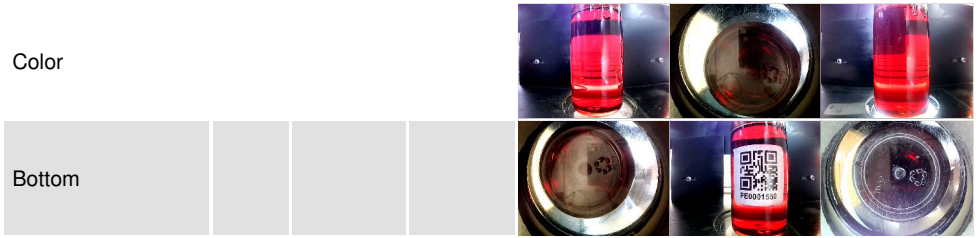


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.91	0.88	0.76

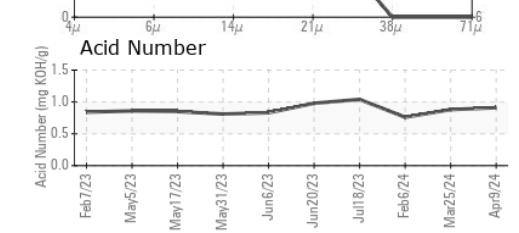
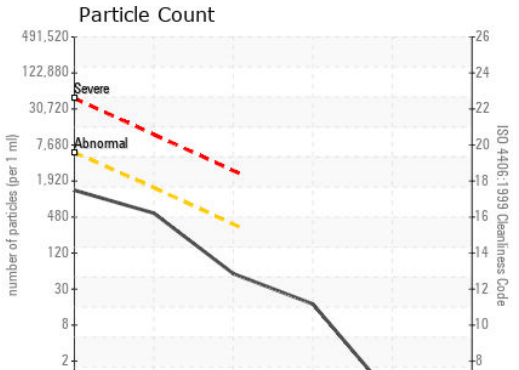
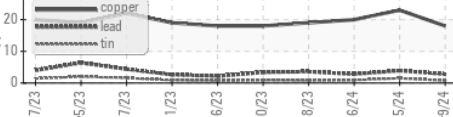
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	34.35	27.3	24.5

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0001547 **Received** : 15 Apr 2024
Lab Number : **06148549** **Tested** : 16 Apr 2024
Unique Number : 10978627 **Diagnosed** : 17 Apr 2024 - Don Baldrige
Test Package : PLANT (Additional Tests: ICP, KV40, PQ, PrtCount, SCREEN)

MCKINLEY PAPER COMPANY
 1902 MARINE DR
 PORT ANGELES, WA
 USA 98363
 Contact: CHAD GALLAUHER
 chad.gallauher@biopappel.com
 T: (360)457-4474
 F:

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)