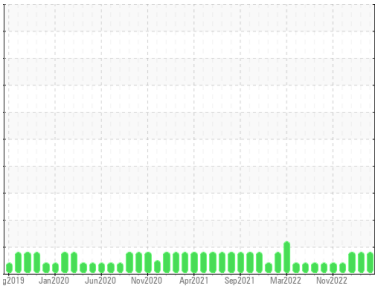
OIL ANALYSIS REPORT

Sample Rating Trend



INSOLUBLES

Machine Id
Press #3 6561231
Component
Hydraulic System
Fluid
KLUBER KLUBEROIL 4 UH1-46 N (251 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
All component wear rates are normal.

Contamination
MPC (Membrane Patch Colorimetry) test indicates a high concentration of varnish present. The amount and size of particulates present in the system are acceptable.

Fluid Condition
The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PTK0003845**	PTK0004301	PTK0003851
Sample Date		Client Info		**24 Mar 2023**	13 Feb 2023	17 Jan 2023
Machine Age	hrs	Client Info		**56110**	55222	54750
Oil Age	hrs	Client Info		**10838**	9950	9478
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**SEVERE**	SEVERE	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**13**	12	13
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>10	**0**	2	3
Lead	ppm	ASTM D5185m	>10	**0**	0	0
Copper	ppm	ASTM D5185m	>75	**<1**	<1	<1
Tin	ppm	ASTM D5185m	>10	**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
Barium	ppm	ASTM D5185m		**0**	0	1
Molybdenum	ppm	ASTM D5185m		**0**	0	0
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**<1**	0	<1
Calcium	ppm	ASTM D5185m		**1**	<1	2
Phosphorus	ppm	ASTM D5185m		**103**	99	116
Zinc	ppm	ASTM D5185m		**25**	22	29
Sulfur	ppm	ASTM D5185m		**14**	39	35

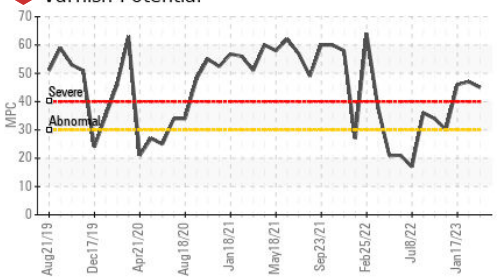
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**2**	1	2
Sodium	ppm	ASTM D5185m		**<1**	2	0
Potassium	ppm	ASTM D5185m	>20	**<1**	0	1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**127**	288	133
Particles >6µm		ASTM D7647	>2500	**36**	84	52
Particles >14µm		ASTM D7647	>320	**4**	8	9
Particles >21µm		ASTM D7647	>80	**1**	2	3
Particles >38µm		ASTM D7647	>20	**0**	0	0
Particles >71µm		ASTM D7647	>4	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/15	**12/9**	14/10	13/10

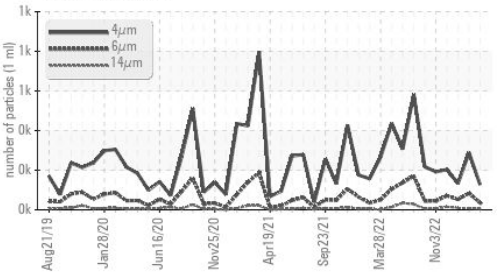
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.331**	0.271	0.36
MPC Varnish Potential	Scale	ASTM D7843	>15	**45**	47	46

OIL ANALYSIS REPORT

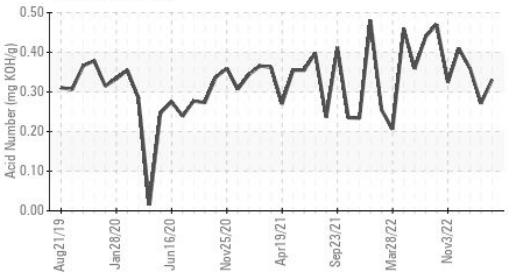
Varnish Potential



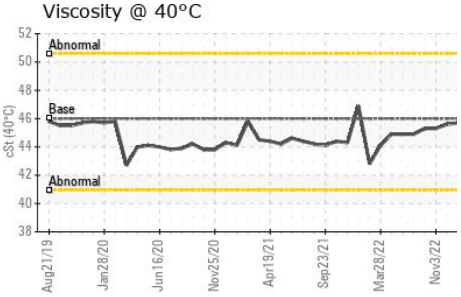
Particle Trend



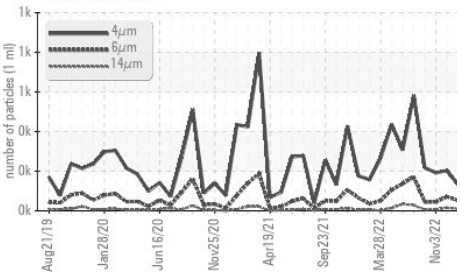
Acid Number



Viscosity @ 40°C



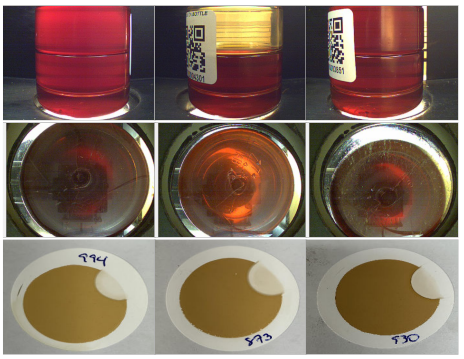
Particle Trend



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

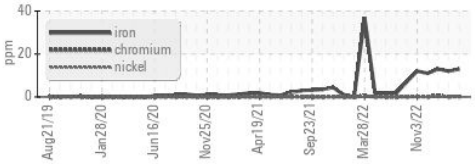
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	**45.3**	46.0	45.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
MPC					

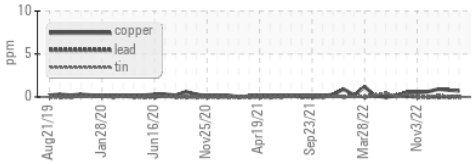


GRAPHS

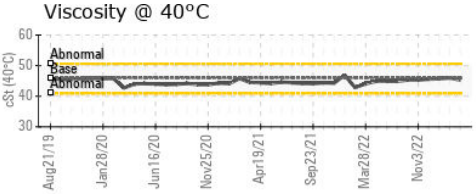
Ferrous Alloys



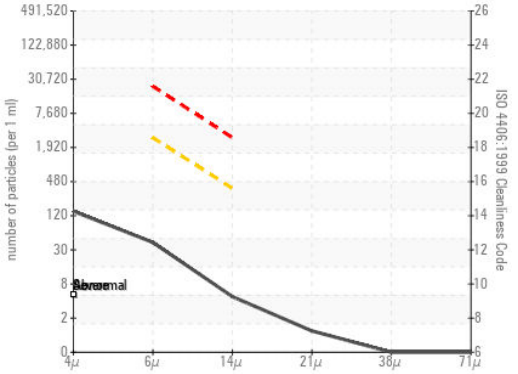
Non-ferrous Metals



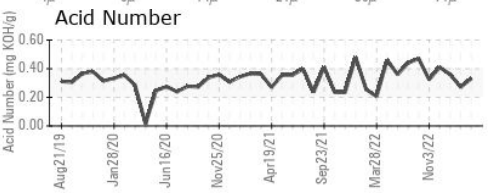
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

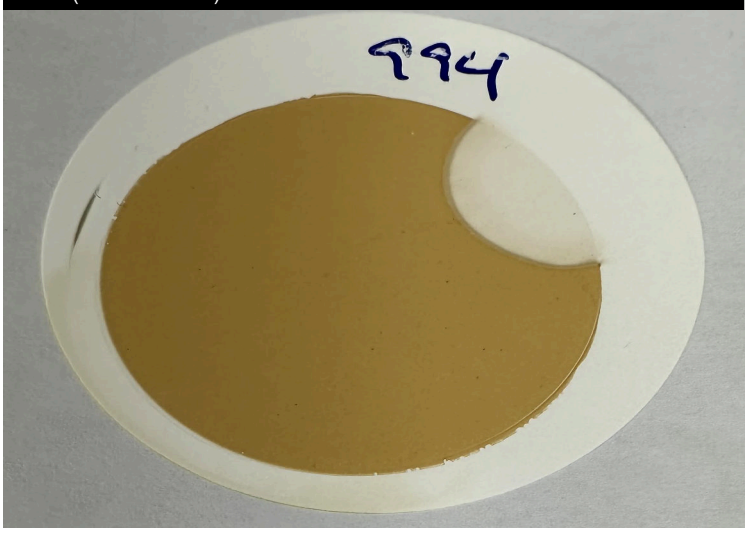
Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PTK0003845 **Received** : 11 Apr 2023
Lab Number : 05816994 **Diagnosed** : 19 Apr 2023
Unique Number : 10419786 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: MPC)

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)

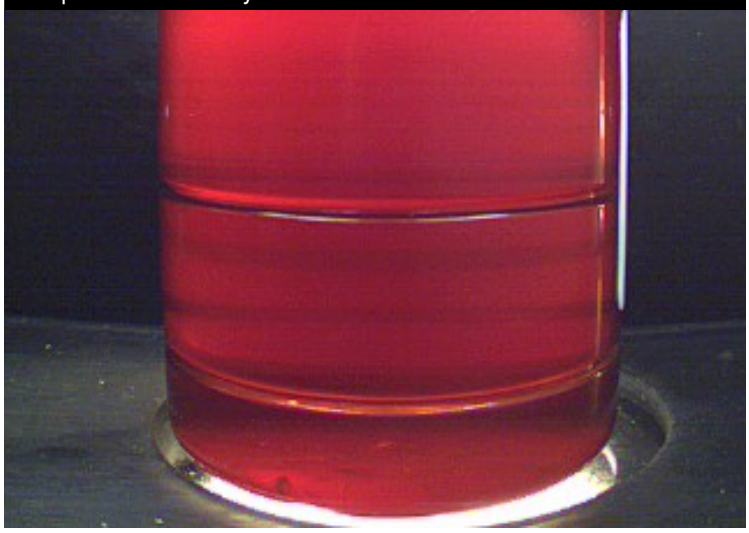
NIAGARA BOTTLING
11031 88TH AVE
PLEASANT PRAIRIE, WI
US 53158
Contact: TODD MONTGOMERY

T: (909)239-7599
F:

MPC (Varnish Test)



Sample Color & Clarity



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