



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
KLEEMAN 002030
 Component
Hydraulic System
 Fluid
CASTROL DUAL RANGE HV HYD OIL ISO 46 (96 GAL)

RECOMMENDATION

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0856123	WC0800531	WC0724652
Sample Date		Client Info		05 Apr 2024	28 Nov 2023	18 Jul 2023
Machine Age	hrs	Client Info		6915	6564	5957
Oil Age	hrs	Client Info		351	607	1500
Filter Age	hrs	Client Info		351	607	364
Oil Changed		Client Info		Not Changed	Not Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ATTENTION	SEVERE	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	2	0	1
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>10	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	1	<1	<1
Lead	ppm	ASTM D5185m	>10	1	0	0
Copper	ppm	ASTM D5185m	>75	<1	<1	<1
Tin	ppm	ASTM D5185m	>10	1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

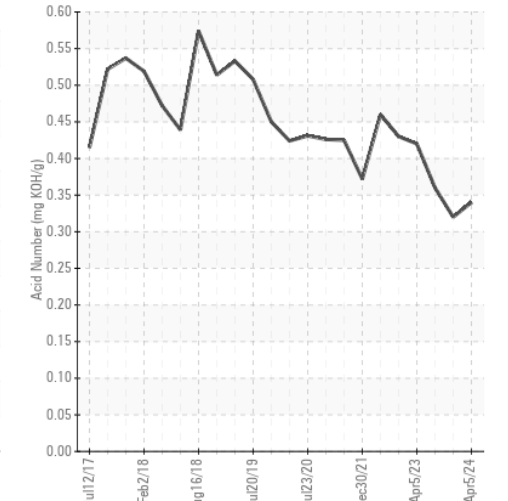
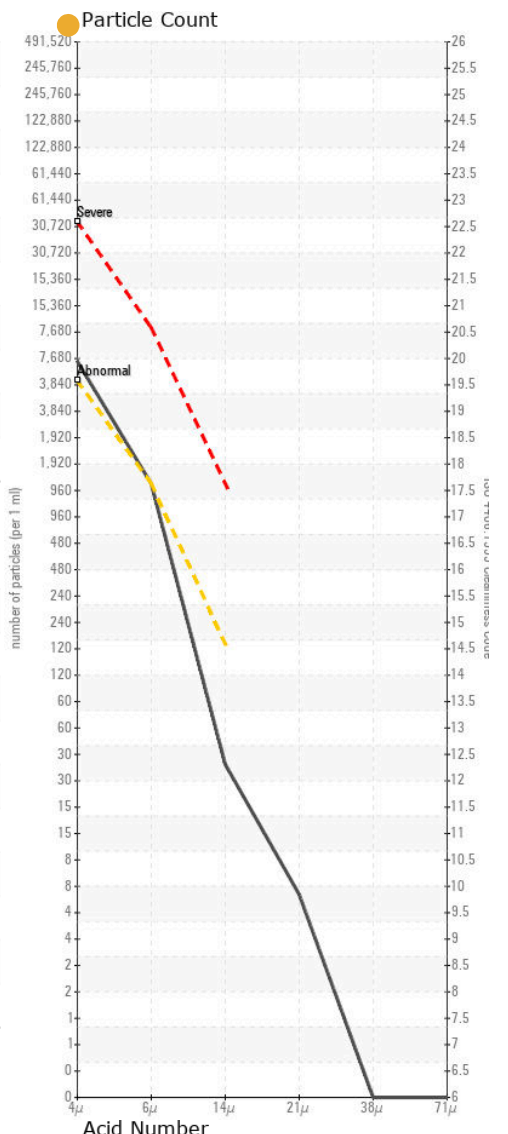
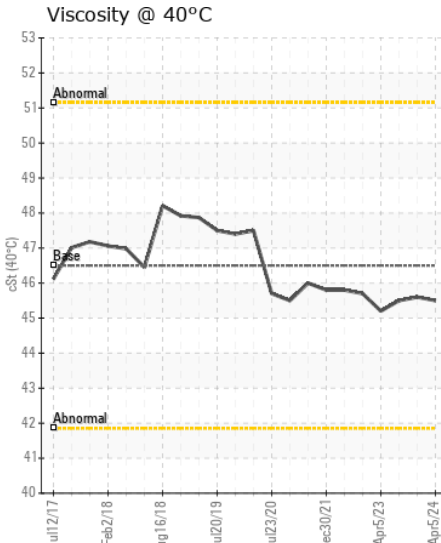
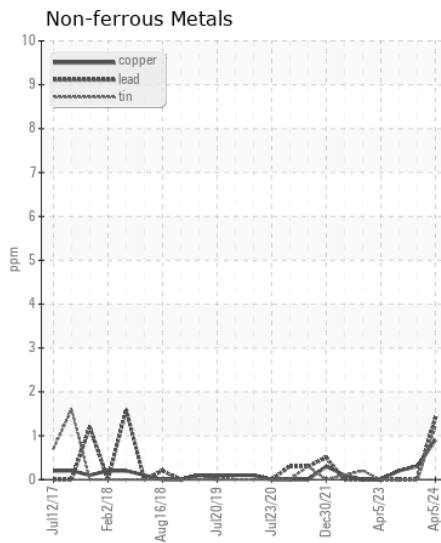
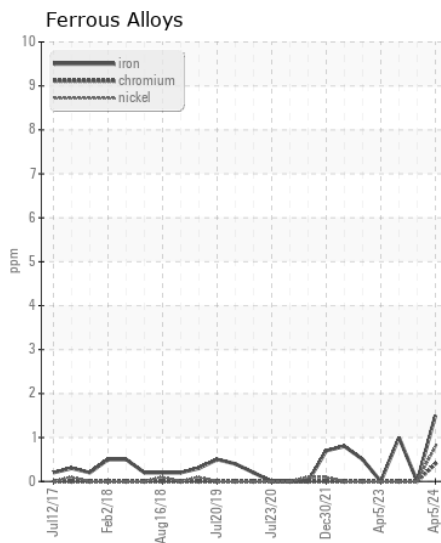
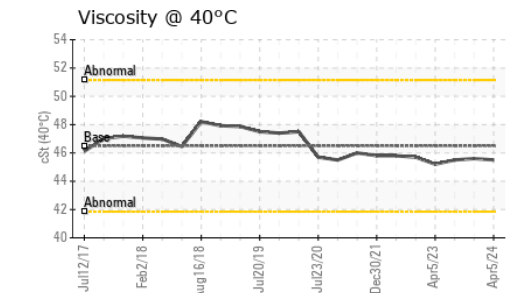
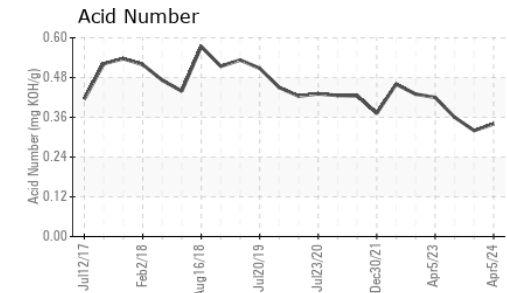
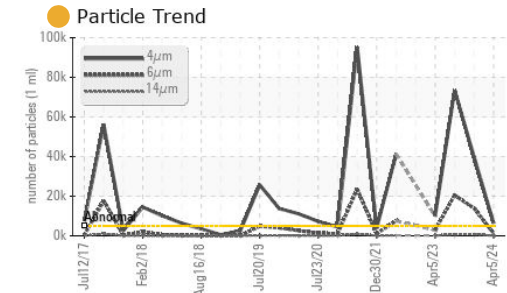
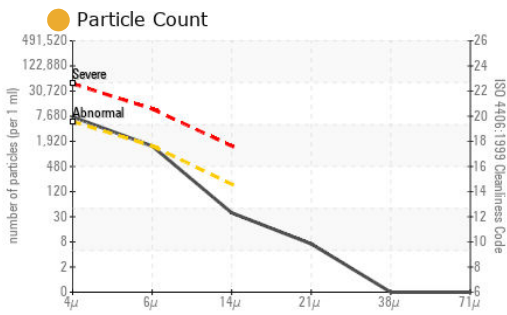
There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	<1	<1	<1
Potassium	ppm	ASTM D5185m	>20	<1	<1	0
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	6451	▲ 39772	▲ 73520
Particles >6µm		ASTM D7647	>1300	1296	▲ 13890	▲ 20522
Particles >14µm		ASTM D7647	>160	33	▲ 775	▲ 675
Particles >21µm		ASTM D7647	>40	6	▲ 153	▲ 110
Particles >38µm		ASTM D7647	>10	0	6	2
Particles >71µm		ASTM D7647	>3	0	1	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	20/17/12	▲ 22/21/17	▲ 23/22/17
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT	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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		0	<1	1
Boron	ppm	ASTM D5185m		8	8	9
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		4	2	3
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		11	12	7
Calcium	ppm	ASTM D5185m		237	221	238
Phosphorus	ppm	ASTM D5185m		367	333	382
Zinc	ppm	ASTM D5185m		415	440	453
Sulfur	ppm	ASTM D5185m		1100	1126	1334
Acid Number (AN)	mg KOH/g	ASTM D8045		0.34	0.32	0.36
Visc @ 40°C	cSt	ASTM D445	46.5	45.5	45.6	45.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0856123
Lab Number : 06147268
Unique Number : 10977346
Test Package : CONST
Received : 12 Apr 2024
Tested : 15 Apr 2024
Diagnosed : 15 Apr 2024 - Wes Davis

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Certificate L2367
 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)