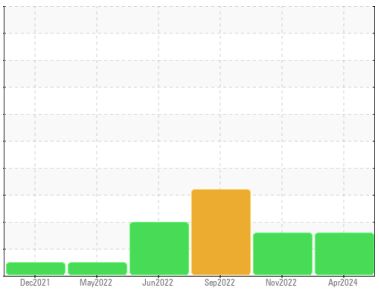
KIMBRO FLUID SOLUTIONS

OIL ANALYSIS REPORT

Area
COLD MILL/CM-3STD-2N
Machine Id
EXIT CAR HPU 1536-001-7540
Component
Hydraulic System
Fluid
PETRO CANADA HYDREX AW 32 (80 GAL)

Sample Rating Trend



VISCOSITY

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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

Fluid Condition
Viscosity of sample indicates oil is within ISO 46 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KFS0004394**	KFS0001926	KFS0001946
Sample Date		Client Info		**08 Apr 2024**	03 Nov 2022	22 Sep 2022
Machine Age		Client Info		**0**	0	0
Oil Age		Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ATTENTION**	ATTENTION	ATTENTION

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**4**	3	0
Chromium	ppm	ASTM D5185m	>20	**0**	0	0
Nickel	ppm	ASTM D5185m	>20	**0**	0	0
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**0**	0	<1
Lead	ppm	ASTM D5185m	>20	**0**	<1	0
Copper	ppm	ASTM D5185m	>20	**<1**	<1	0
Tin	ppm	ASTM D5185m	>20	**269**	292	120
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	<1	0
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	0
Manganese	ppm	ASTM D5185m	0	**<1**	0	0
Magnesium	ppm	ASTM D5185m	0	**0**	0	0
Calcium	ppm	ASTM D5185m	50	**<1**	0	0
Phosphorus	ppm	ASTM D5185m	330	**96**	108	101
Zinc	ppm	ASTM D5185m	430	**90**	0	0
Sulfur	ppm	ASTM D5185m	760	**836**	465	636

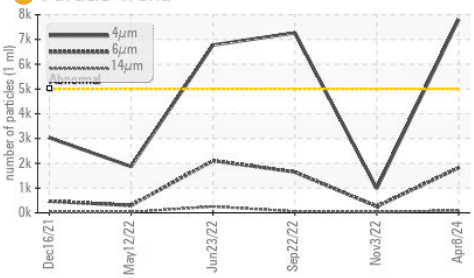
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	**2**	<1	2
Sodium	ppm	ASTM D5185m		**1**	2	3
Potassium	ppm	ASTM D5185m	>20	**0**	0	0

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>5000	**7806**	978	7268
Particles >6µm		ASTM D7647	>1300	**1814**	260	1645
Particles >14µm		ASTM D7647	>160	**91**	34	56
Particles >21µm		ASTM D7647	>40	**29**	14	8
Particles >38µm		ASTM D7647	>10	**4**	3	1
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**20/18/14**	17/15/12	20/18/13

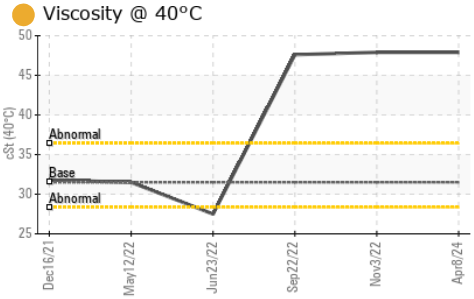
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.50	**0.50**	1.50	1.34

OIL ANALYSIS REPORT

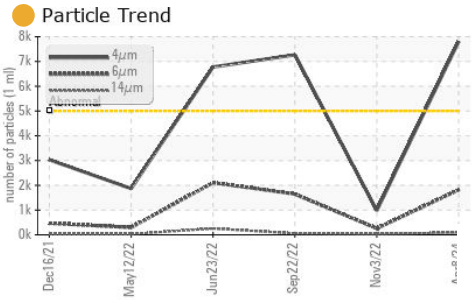
Particle Trend



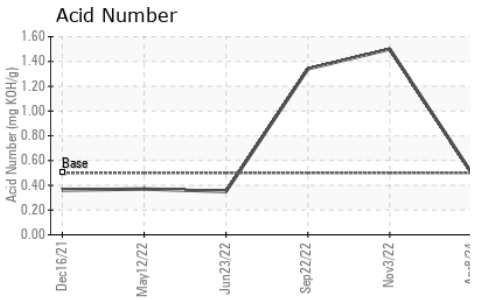
Viscosity @ 40°C



Particle Trend

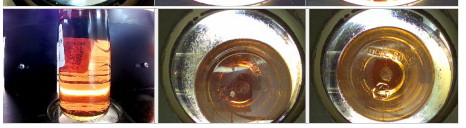


Acid Number



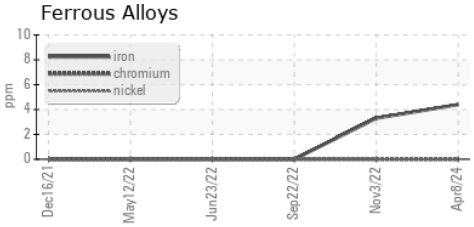
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	31.5	**47.9**	47.9	47.6

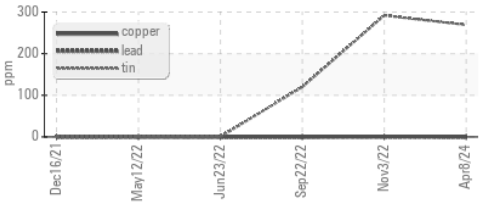
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

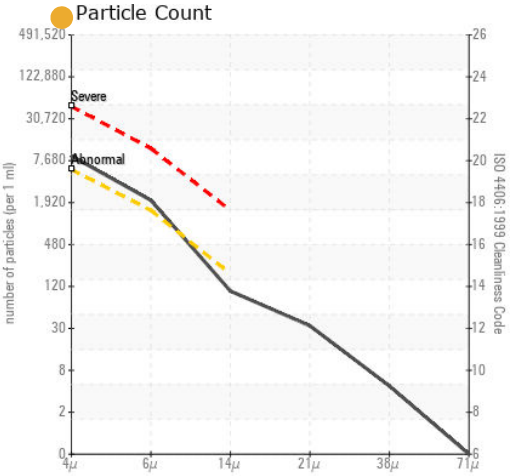
Ferrous Alloys



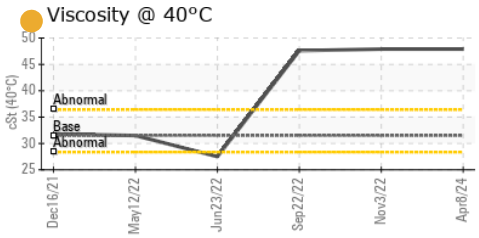
Non-ferrous Metals



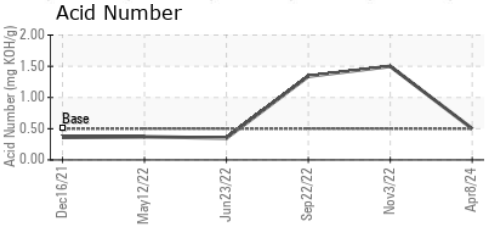
Particle Count



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004394
Lab Number : 06142994
Unique Number : 10967802
Test Package : IND 2

Received : 09 Apr 2024
Tested : 10 Apr 2024
Diagnosed : 11 Apr 2024 - Jonathan Hester

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)

CONSTELLIUM
4805 SECOND STREET
MUSCLE SHOALS, AL
US 35661
Contact: Randy Nichols
randall.nichols@constellium.com
T: (256)386-6956
F: