TRAAP
Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
73
Component
Hydraulic System
Fluid
{not provided} (--- GAL)

RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

WEAR

The copper level is abnormal. All other component wear rates are normal.

CONTAMINATION

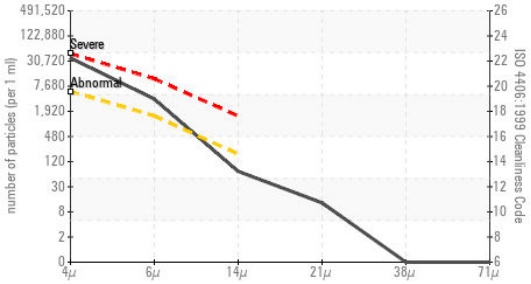
There is a high amount of silt (particulates < 14 microns in size) present in the oil.

FLUID CONDITION

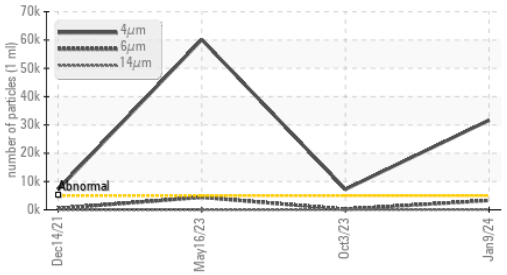
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR0001300	TR0001219	TR0000847
Sample Date		Client Info		09 Jan 2024	03 Oct 2023	16 May 2023
Machine Age	hrs	Client Info		19809	19660	19124
Oil Age	hrs	Client Info		19809	19660	0
Filter Age	hrs	Client Info		19809	19660	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>20	12	10	10
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	<1	0
Titanium	ppm	ASTM D5185m		2	2	2
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	2	5	3
Lead	ppm	ASTM D5185m	>10	0	<1	4
Copper	ppm	ASTM D5185m	>75	▲ 205	▲ 167	▲ 96
Tin	ppm	ASTM D5185m	>10	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	LIGHT
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>20	7	6	14
Potassium	ppm	ASTM D5185m	>20	2	1	2
Water		WC Method	>0.1	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>5000	▲ 31647	▲ 7238	▲ 60130
Particles >6µm		ASTM D7647	>1300	▲ 3293	217	▲ 4433
Particles >14µm		ASTM D7647	>160	62	12	22
Particles >21µm		ASTM D7647	>40	11	3	3
Particles >38µm		ASTM D7647	>10	0	0	0
Particles >71µm		ASTM D7647	>3	0	0	0
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 22/19/13	▲ 20/15/11	▲ 23/19/12
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
Sodium	ppm	ASTM D5185m		2	5	3
Boron	ppm	ASTM D5185m		31	30	34
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		18	18	19
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		74	74	90
Calcium	ppm	ASTM D5185m		2189	2062	2283
Phosphorus	ppm	ASTM D5185m		887	800	887
Zinc	ppm	ASTM D5185m		1032	988	1102
Sulfur	ppm	ASTM D5185m		3805	3232	4143
Acid Number (AN)	mg KOH/g	ASTM D8045		1.17	1.07	1.24
Visc @ 40°C	cSt	ASTM D445		88.6	89.4	---
Visc @ 100°C	cSt	ASTM D445		11.2	11.4	11.9
Viscosity Index (VI)	Scale	ASTM D2270		113	115	---

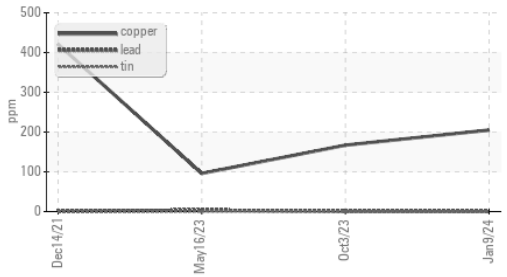
Particle Count



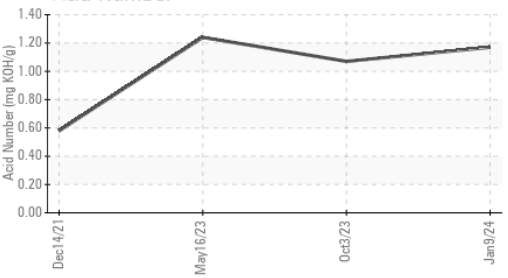
Particle Trend



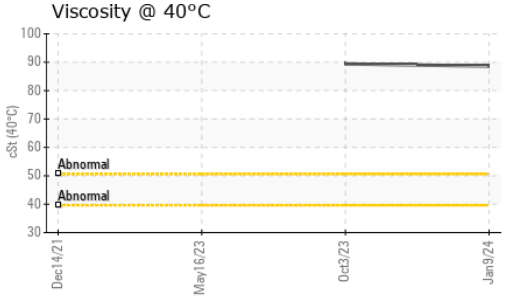
Non-ferrous Metals



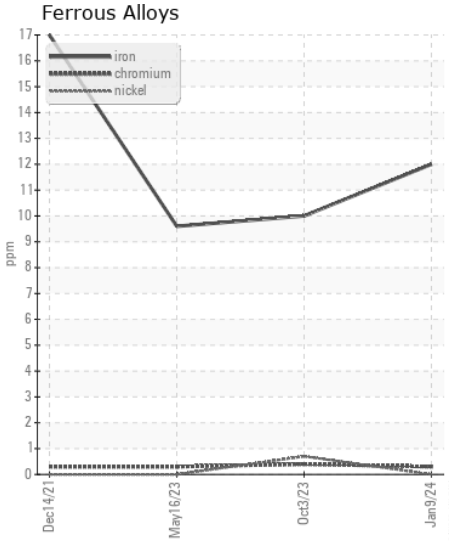
Acid Number



Viscosity @ 40°C



Ferrous Alloys



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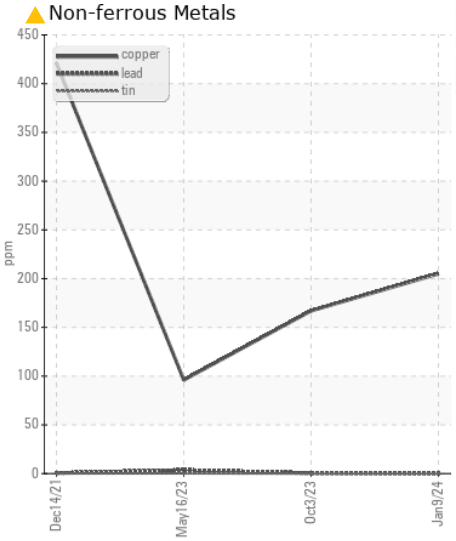

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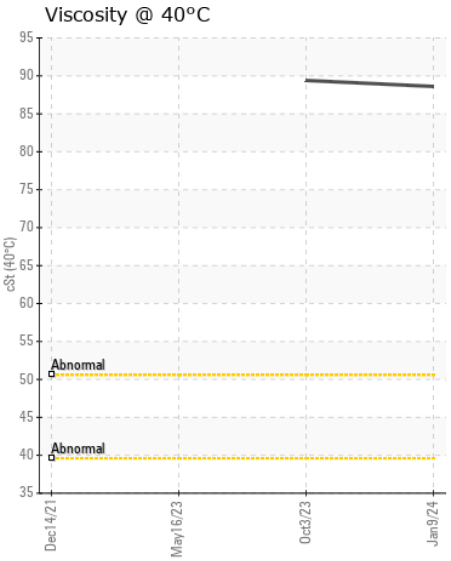
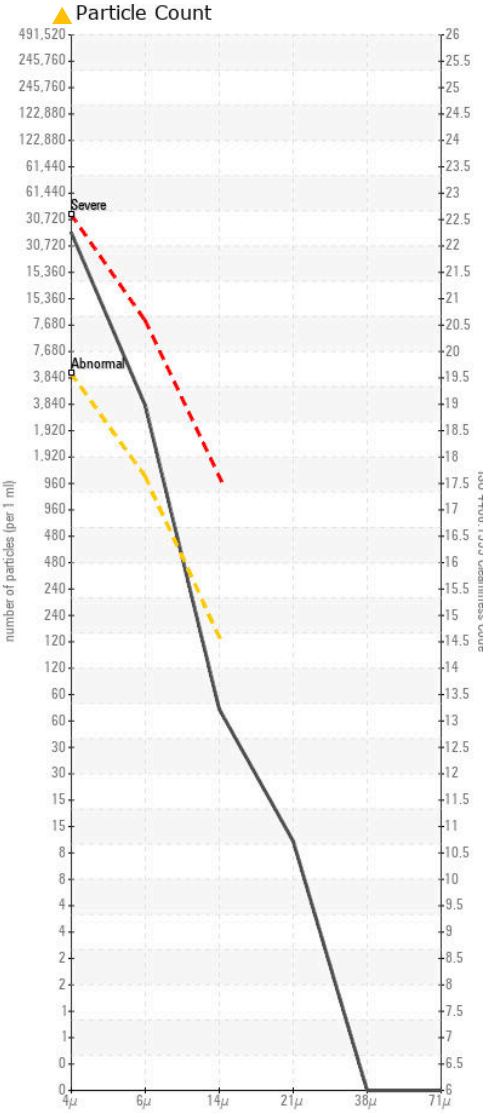
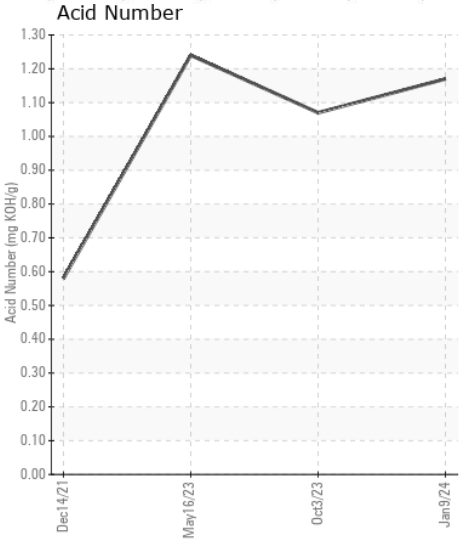


Particle Count



Acid Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR0001300 **Recieved** : 12 Jan 2024
Lab Number : 06060218 **Diagnosed** : 16 Jan 2024
Unique Number : 10831600 **Diagnostician** : Don Baldridge
Test Package : MOB 2 (Additional Tests: KV100, VI)

Certificate L2367

To discuss this sample report, contact Customer Service at 1-800-827-0711.
** - 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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