



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ATTENTION
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 972M L09 A8P00259
 Component
Hydraulic System
 Fluid
CHEVRON RANDO HD 46 (12 GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR06145858	TR06100116	---
Sample Date		Client Info		22 Mar 2024	08 Feb 2024	---
Machine Age	hrs	Client Info		8784	8574	---
Oil Age	hrs	Client Info		210	0	---
Filter Age	hrs	Client Info		210	0	---
Oil Changed		Client Info		Not Chngd	Changed	---
Filter Changed		Client Info		Not Chngd	Changed	---
Sample Status				ATTENTION	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>20	9	9	---
Chromium	ppm	ASTM D5185m	>10	<1	1	---
Nickel	ppm	ASTM D5185m	>10	0	0	---
Titanium	ppm	ASTM D5185m		0	<1	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>10	4	5	---
Lead	ppm	ASTM D5185m	>10	0	<1	---
Copper	ppm	ASTM D5185m	>75	6	7	---
Tin	ppm	ASTM D5185m	>10	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

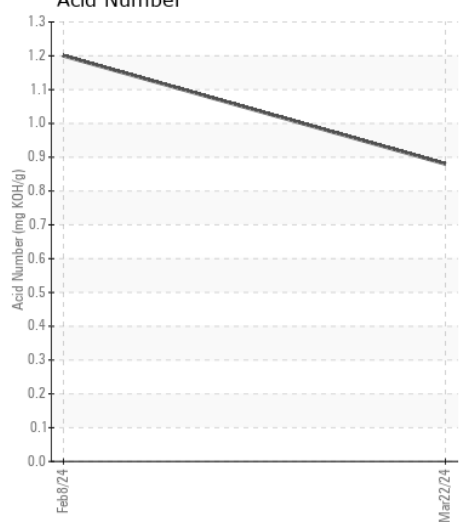
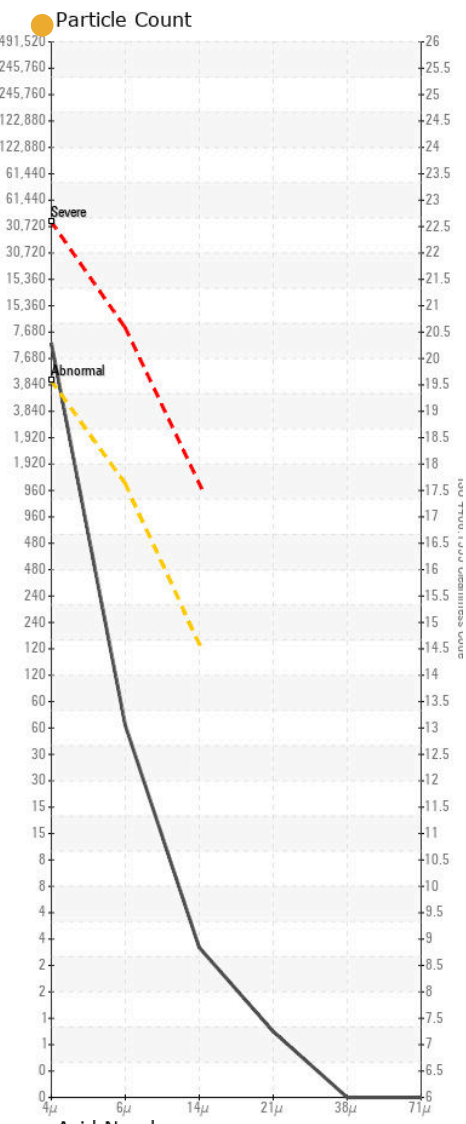
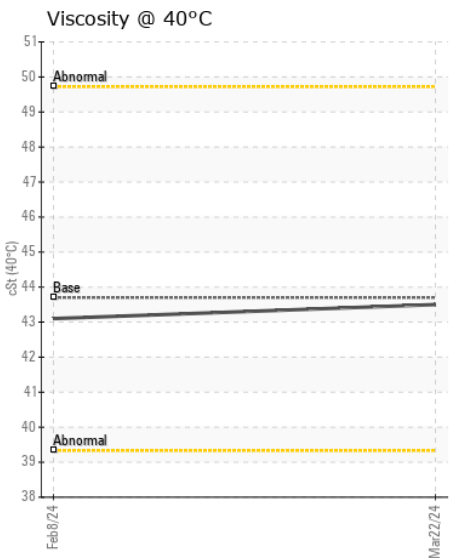
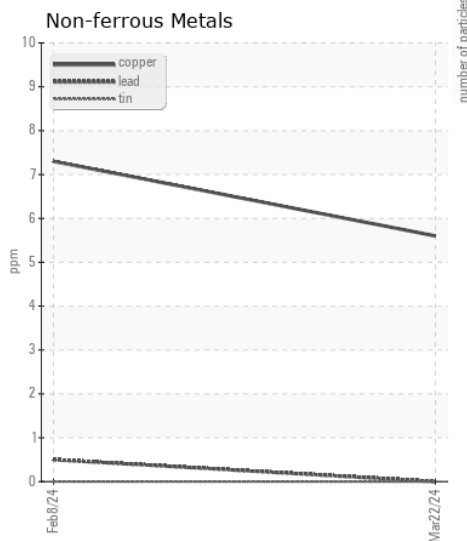
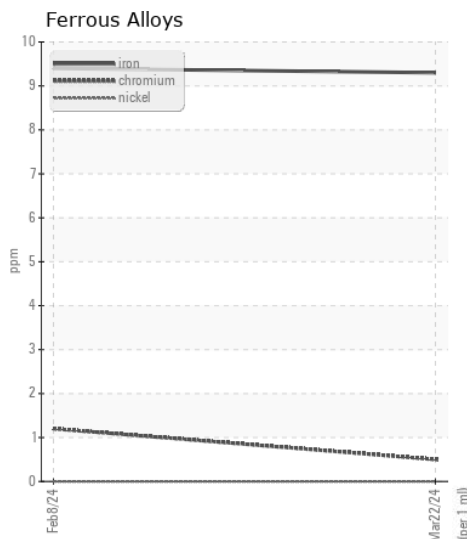
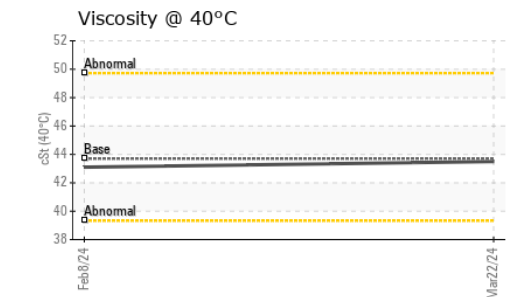
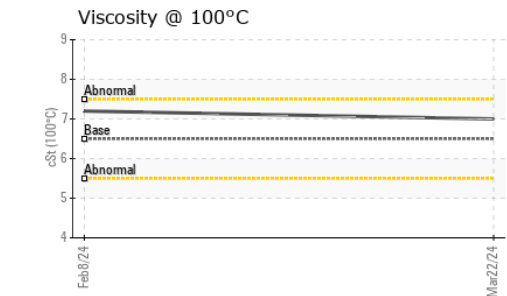
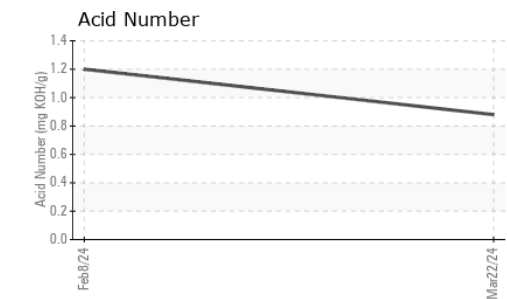
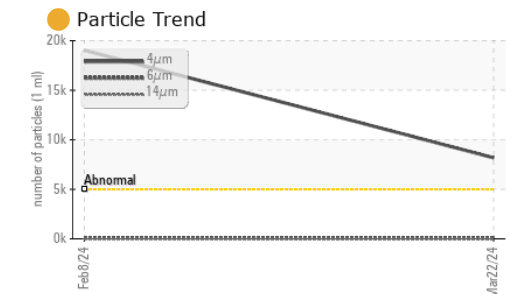
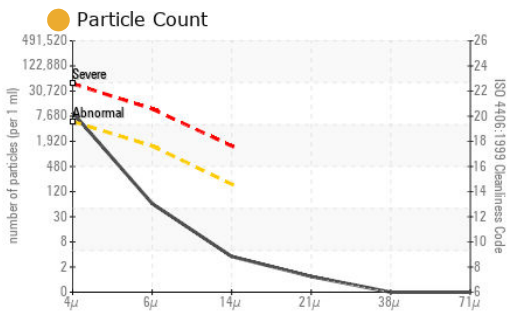
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

Silicon	ppm	ASTM D5185m	>20	13	13	---
Potassium	ppm	ASTM D5185m	>20	6	6	---
Water		WC Method	>0.1	NEG	NEG	---
Particles >4µm		ASTM D7647	>5000	8178	19037	---
Particles >6µm		ASTM D7647	>1300	55	88	---
Particles >14µm		ASTM D7647	>160	3	3	---
Particles >21µm		ASTM D7647	>40	1	2	---
Particles >38µm		ASTM D7647	>10	0	0	---
Particles >71µm		ASTM D7647	>3	0	0	---
Oil Cleanliness		ISO 4406 (c)	>19/17/14	20/13/9	21/14/9	---
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	>0.1	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		5	7	---
Boron	ppm	ASTM D5185m		11	9	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		4	5	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		32	29	---
Calcium	ppm	ASTM D5185m		2043	1893	---
Phosphorus	ppm	ASTM D5185m		866	831	---
Zinc	ppm	ASTM D5185m		986	913	---
Sulfur	ppm	ASTM D5185m		3563	2861	---
Acid Number (AN)	mg KOH/g	ASTM D8045		0.88	1.20	---
Visc @ 40°C	cSt	ASTM D445	43.7	43.5	43.1	---
Visc @ 100°C	cSt	ASTM D445	6.5	7.0	7.2	---
Viscosity Index (VI)	Scale	ASTM D2270	97	119	129	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06145858 **Received** : 11 Apr 2024
Lab Number : 06145858 **Tested** : 12 Apr 2024
Unique Number : 10975936 **Diagnosed** : 15 Apr 2024 - Don Baldrige
Test Package : MOB 2 (Additional Tests: KV100, VI)

BARR-TECH COMPOSTING
 9117 KALLENBERGER RD N
 SPRAGUE, WA
 US 99032
 Contact: RON GROGAN

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)

T: (509)590-0437
 F: