



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CATERPILLAR 972M 972M-BARR 6 A8P00389
 Component
Diesel Engine
 Fluid
TRC MOLY XL PRO-SPEC IV XP 15W40 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		TR05784637	TR05760182	TR05716031
Sample Date		Client Info		03 Mar 2023	03 Feb 2023	08 Dec 2022
Machine Age	hrs	Client Info		9831	9666	9364
Oil Age	hrs	Client Info		1352	1187	885
Filter Age	hrs	Client Info		1352	1187	885
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	78	66	68
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	6	4	6
Lead	ppm	ASTM D5185m	>40	31	26	34
Copper	ppm	ASTM D5185m	>330	7	6	7
Tin	ppm	ASTM D5185m	>15	2	2	2
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

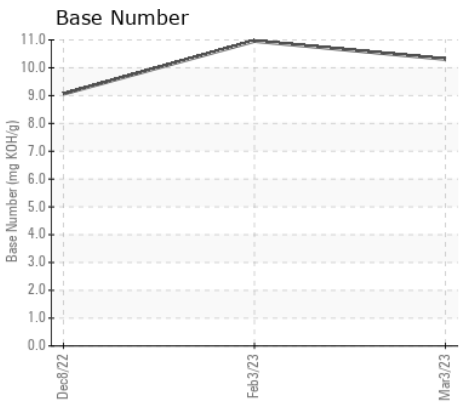
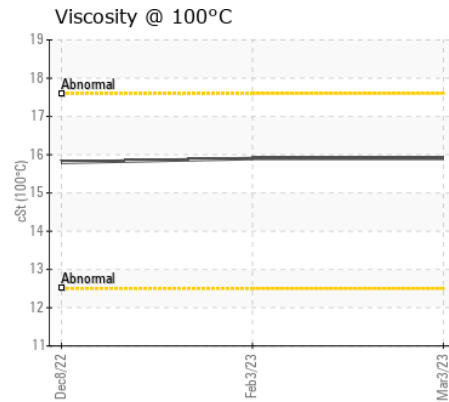
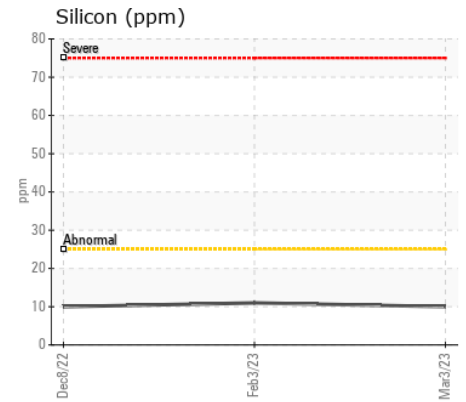
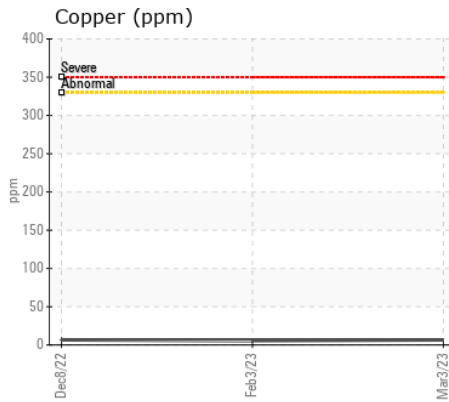
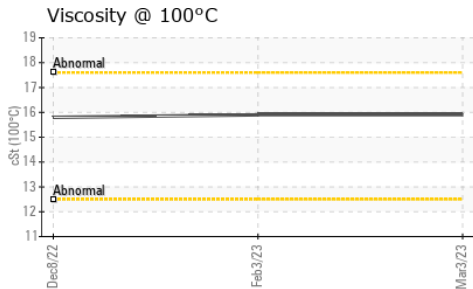
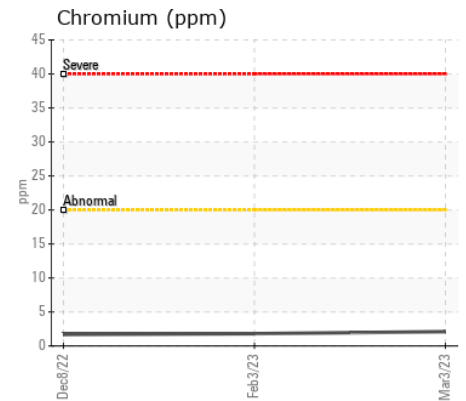
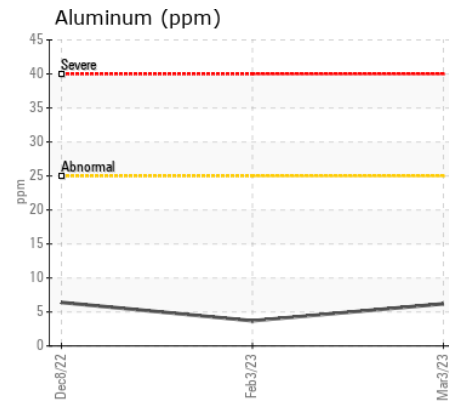
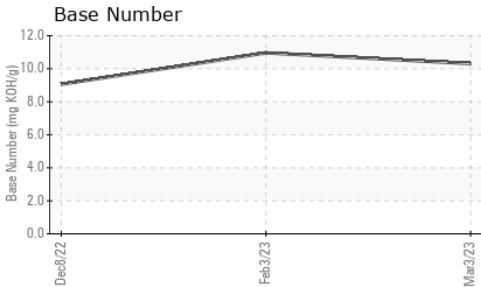
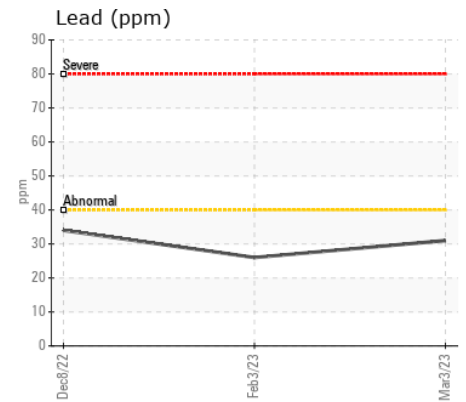
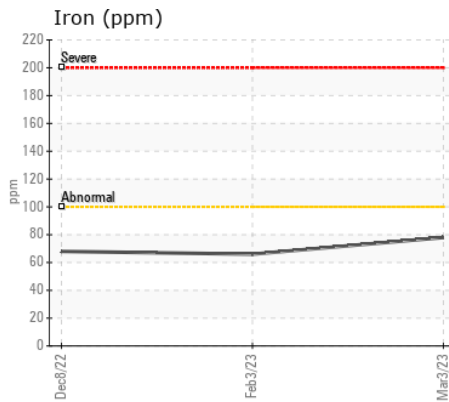
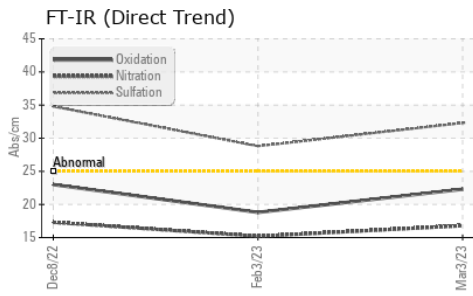
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	10	11	10
Potassium	ppm	ASTM D5185m	>20	3	<1	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	1.8	1.5	2
Nitration	Abs/cm	*ASTM D7624	>20	16.8	15.2	17.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	32.3	28.8	34.8
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	>0.2	NEG	NEG	NEG

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		4	4	4
Boron	ppm	ASTM D5185m		2	<1	6
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		132	136	123
Manganese	ppm	ASTM D5185m		2	1	1
Magnesium	ppm	ASTM D5185m		33	28	25
Calcium	ppm	ASTM D5185m		4581	4653	4807
Phosphorus	ppm	ASTM D5185m		975	996	1008
Zinc	ppm	ASTM D5185m		1251	1220	1203
Sulfur	ppm	ASTM D5185m		5362	5129	5390
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	18.8	23.0
Base Number (BN)	mg KOH/g	ASTM D2896		10.31	10.96	9.06
Visc @ 100°C	cSt	ASTM D445		15.9	15.9	15.8



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR05784637 **Received** : 06 Mar 2023
Lab Number : 05784637 **Tested** : 07 Mar 2023
Unique Number : 10364307 **Diagnosed** : 08 Mar 2023 - Don Baldrige
Test Package : MOB 2

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)

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 F: