



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**CATERPILLAR 966H 966H-L05 A6D02689**

Component  
**Diesel Engine**

Fluid  
**TRC MOLY XL PRO-SPEC IV XP 15W40 (7 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06101165</b>	TR06055067	TR05973218
Sample Date		Client Info		<b>21 Feb 2024</b>	22 Dec 2023	03 Oct 2023
Machine Age	hrs	Client Info		<b>17442</b>	17268	16952
Oil Age	hrs	Client Info		<b>1390</b>	1216	900
Filter Age	hrs	Client Info		<b>1390</b>	1216	900
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>23</b>	32	26
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>3</b>	2	0
Lead	ppm	ASTM D5185m	>40	<b>2</b>	3	2
Copper	ppm	ASTM D5185m	>330	<b>5</b>	8	6
Tin	ppm	ASTM D5185m	>15	<b>0</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

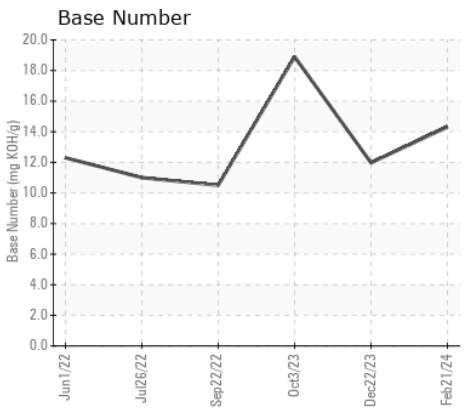
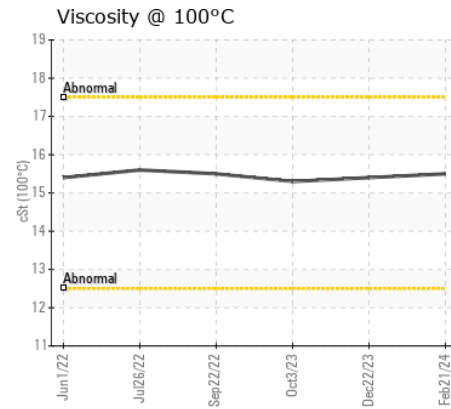
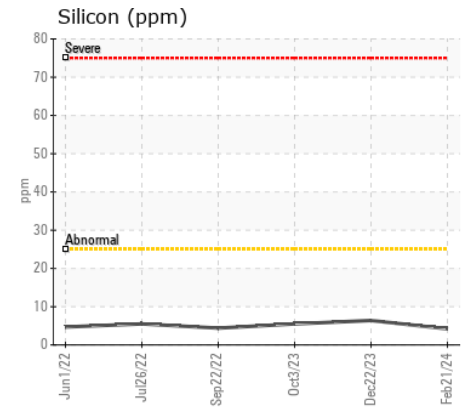
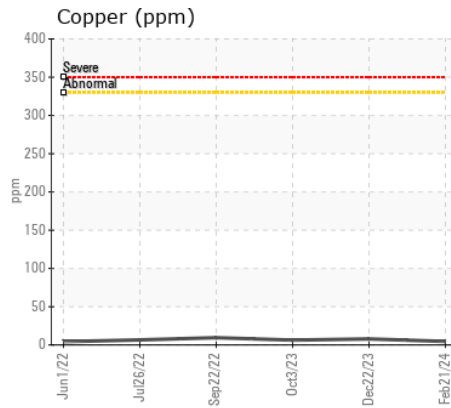
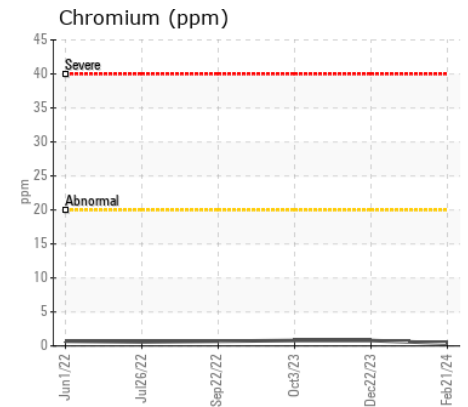
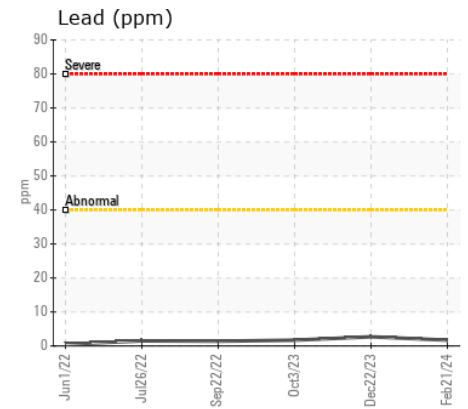
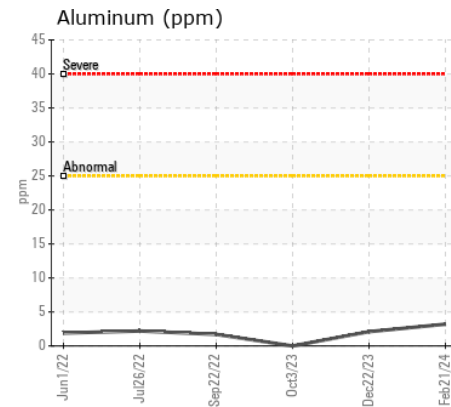
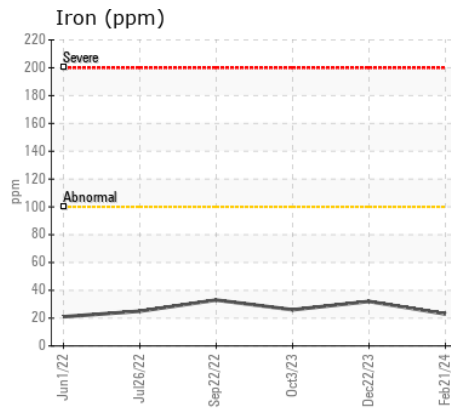
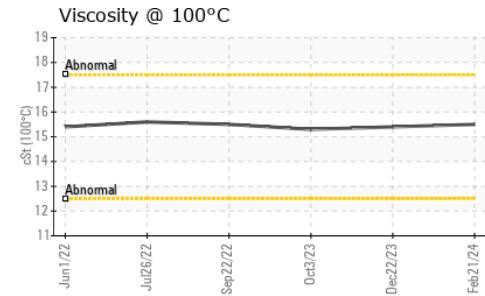
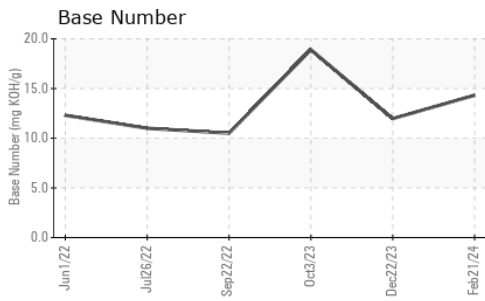
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	6	6
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	3	4
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.9</b>	0.9	1
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.1</b>	11.4	11.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.8</b>	22.4	22.9
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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		<b>0</b>	0	0
Boron	ppm	ASTM D5185m		<b>2</b>	8	2
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>126</b>	125	133
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>55</b>	74	27
Calcium	ppm	ASTM D5185m		<b>4062</b>	4142	4154
Phosphorus	ppm	ASTM D5185m		<b>907</b>	840	948
Zinc	ppm	ASTM D5185m		<b>1116</b>	1102	1132
Sulfur	ppm	ASTM D5185m		<b>4234</b>	4486	4632
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.3</b>	14.1	14.2
Base Number (BN)	mg KOH/g	ASTM D2896		<b>14.32</b>	11.97	18.90
Visc @ 100°C	cSt	ASTM D445		<b>15.5</b>	15.4	15.3



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06101165  
**Lab Number** : 06101165  
**Unique Number** : 10899395  
**Test Package** : MOB 2

**Received** : 26 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 28 Feb 2024 - Wes Davis

**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: