



TRAAP

Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**4032**  
 Component  
**Diesel Engine**  
 Fluid  
**TRC PRO-SPEC IV 15W40 (11 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>TR06234051</b>	TR05489221	TR05373637
Sample Date		Client Info		<b>03 Jul 2024</b>	01 Mar 2022	06 Oct 2021
Machine Age	mls	Client Info		<b>496963</b>	344700	315404
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>N/A</b>	N/A	N/A
Filter Changed		Client Info		<b>N/A</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>32</b>	59	31
Chromium	ppm	ASTM D5185m	>20	<b>3</b>	4	2
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	4	3
Lead	ppm	ASTM D5185m	>40	<b>5</b>	4	4
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

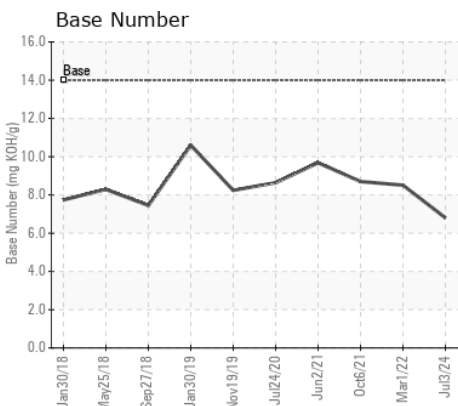
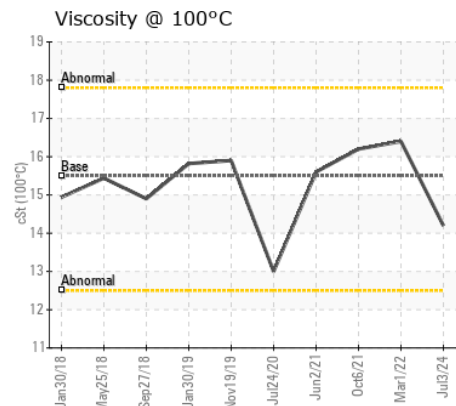
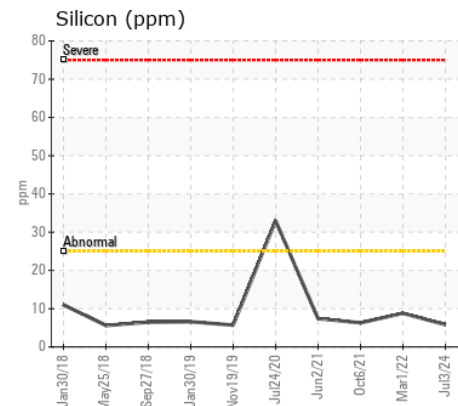
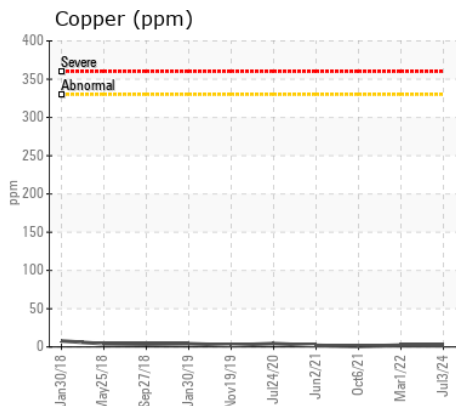
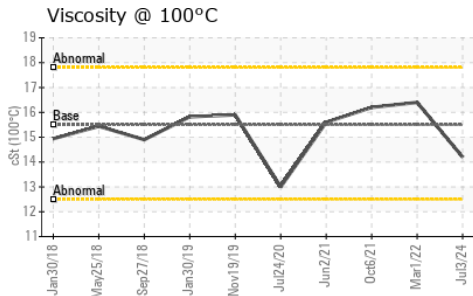
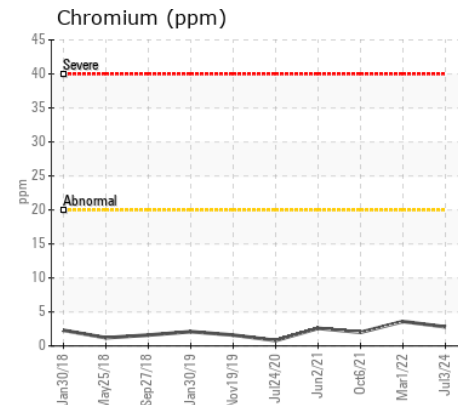
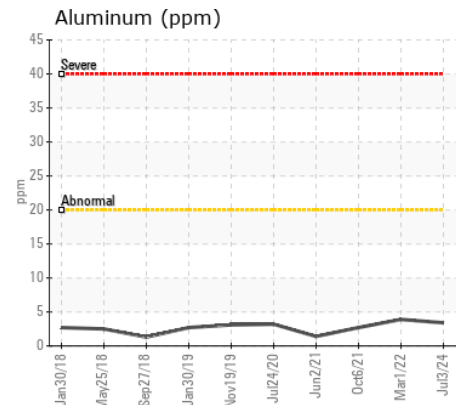
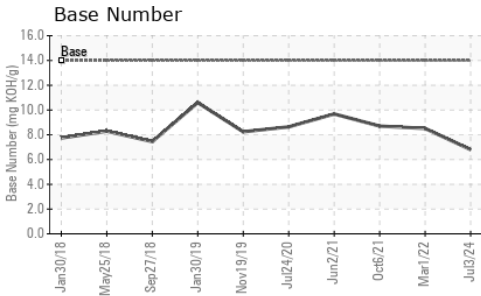
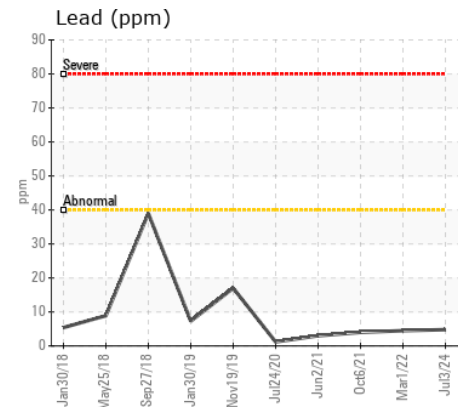
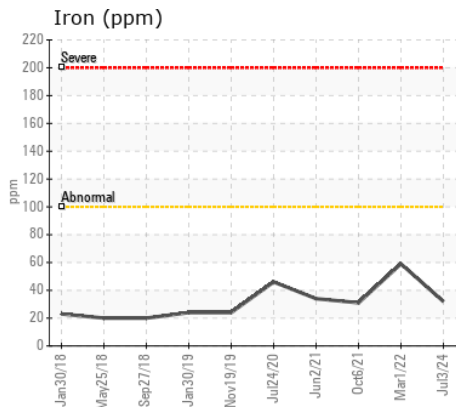
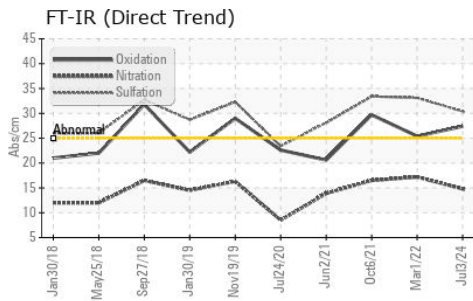
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	9	6
Potassium	ppm	ASTM D5185m	>20	<b>6</b>	11	8
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>1</b>	1.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>14.8</b>	17.2	16.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>30.4</b>	33.1	33.4
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>&lt;1</b>	4	4
Boron	ppm	ASTM D5185m		<b>9</b>	<1	0
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>8</b>	34	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>29</b>	13	19
Calcium	ppm	ASTM D5185m	2300	<b>3794</b>	4955	4586
Phosphorus	ppm	ASTM D5185m		<b>767</b>	1047	898
Zinc	ppm	ASTM D5185m	1200	<b>903</b>	1243	1112
Sulfur	ppm	ASTM D5185m		<b>3291</b>	3834	3384
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>27.4</b>	25.4	29.7
Base Number (BN)	mg KOH/g	ASTM D2896	14	<b>6.80</b>	8.51	8.70
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.2</b>	16.4	16.2



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : TR06234051  
**Lab Number** : 06234051  
**Unique Number** : 11122885  
**Test Package** : MOB 2  
**Received** : 11 Jul 2024  
**Tested** : 12 Jul 2024  
**Diagnosed** : 14 Jul 2024 - Don Baldridge

**CHRISTENSEN FARMS**  
 24710 US HWY 14  
 SLEEPY EYE, MN  
 US 56085  
 Contact: MATT  
 truckshop@christensenfarms.com

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) F: (507)794-5597