



# OIL ANALYSIS REPORT

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

Machine Id  
**CLARKE FIRE PUMP**  
Component  
**Diesel Engine**  
Fluid  
**CHEVRON URSA SUPER PLUS EC 15W40 (7 GAL)**

## RECOMMENDATION

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0827473</b>	WC0452548	WC0338285
Sample Date		Client Info		<b>25 Jun 2024</b>	05 May 2020	02 May 2019
Machine Age	hrs	Client Info		<b>659</b>	200	173
Oil Age	hrs	Client Info		<b>0</b>	0	28
Filter Age	hrs	Client Info		<b>0</b>	0	28
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>SEVERE</b>	ATTENTION	NORMAL

## WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185m	>100	<b>&lt;1</b>	4	3
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	<1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>4</b>	2	1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</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

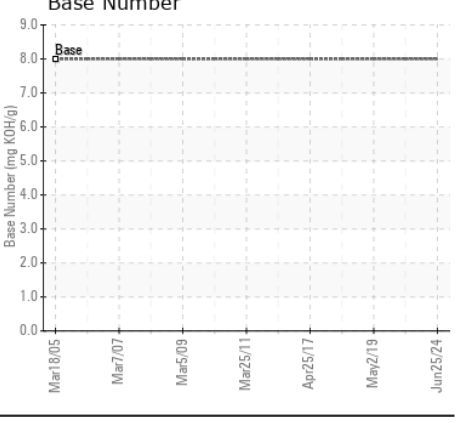
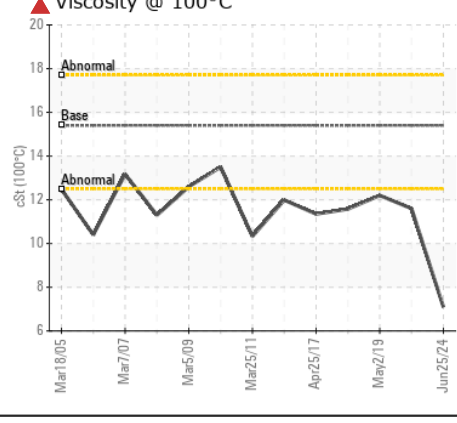
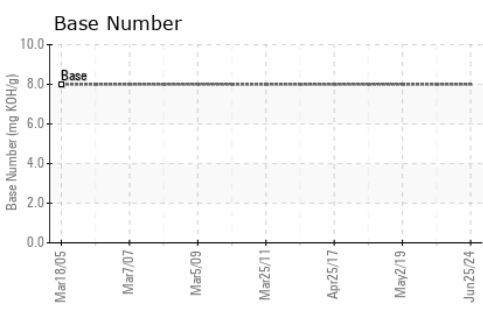
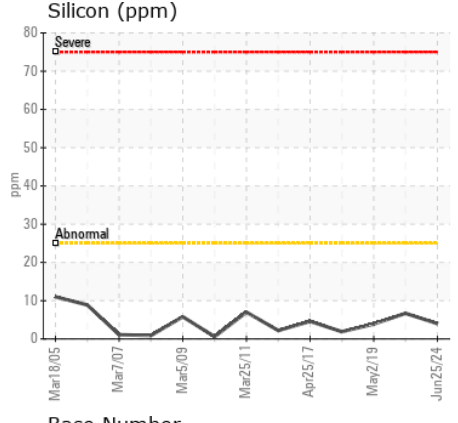
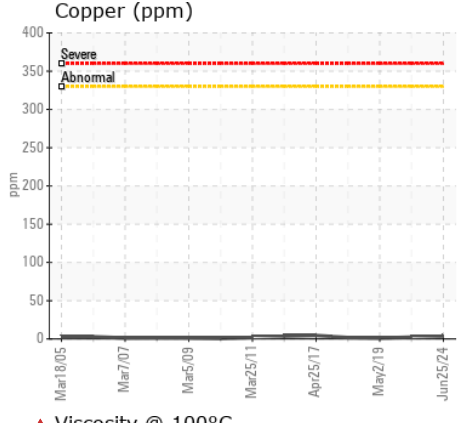
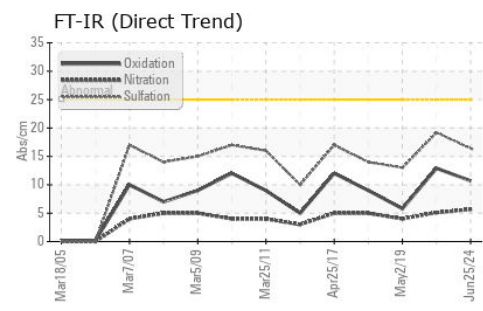
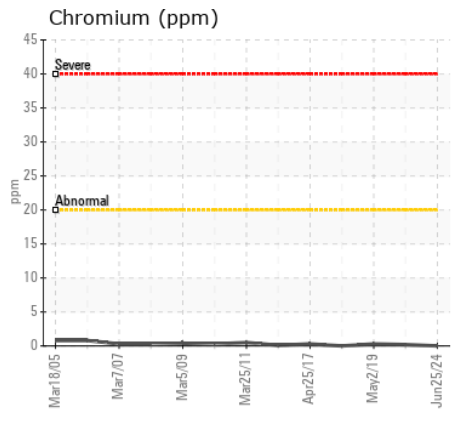
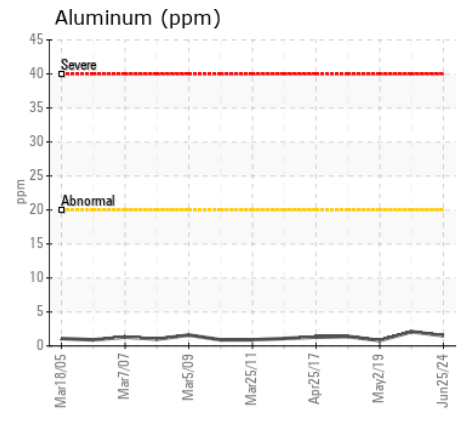
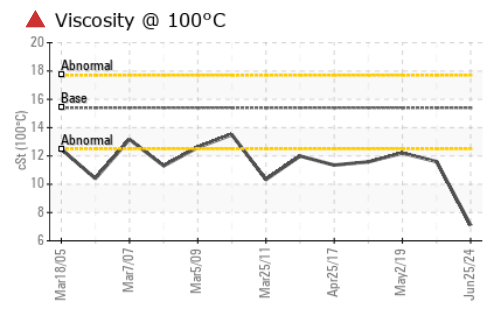
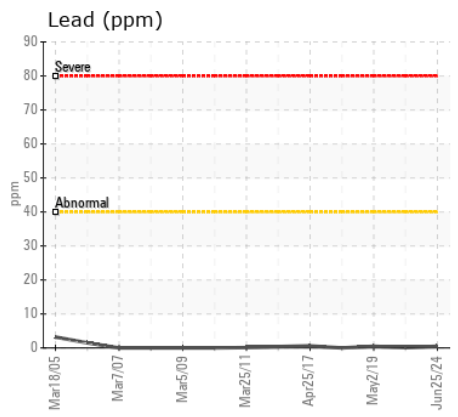
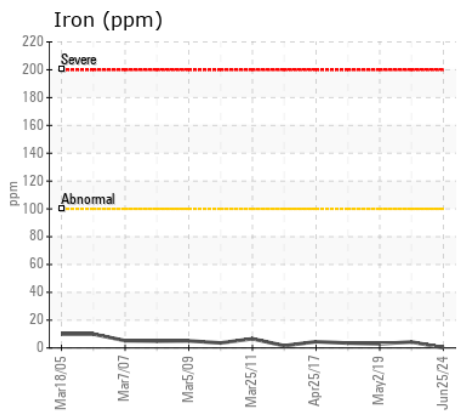
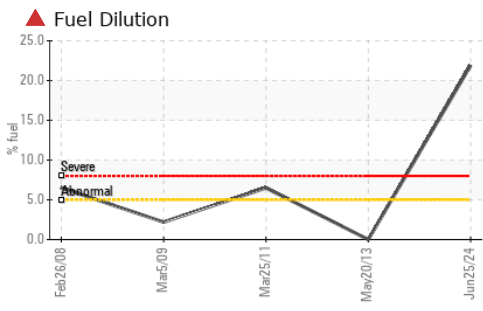
There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	7	4
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	2
Fuel	%	ASTM D3524	>5	<b>▲ 21.9</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</b>	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.7</b>	5.1	4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.4</b>	19.2	13
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</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. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		<b>1</b>	9	56
Boron	ppm	ASTM D5185m		<b>177</b>	294	49
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>39</b>	95	18
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>220</b>	532	1106
Calcium	ppm	ASTM D5185m		<b>1398</b>	1156	443
Phosphorus	ppm	ASTM D5185m	1200	<b>730</b>	632	940
Zinc	ppm	ASTM D5185m	1300	<b>889</b>	717	1062
Sulfur	ppm	ASTM D5185m		<b>3083</b>	2246	3576
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>10.7</b>	12.9	5.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	<b>6.8</b>	---	---
Visc @ 100°C	cSt	ASTM D445	15.4	<b>▲ 7.1</b>	● 11.6	12.2



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0827473  
**Lab Number** : 06220583  
**Unique Number** : 11098780  
**Test Package** : MOB 1 ( Additional Tests: FuelDilution, PercentFuel, TBN )

**UNIVAR USA INC.**  
 200 DEAN SIEVERS PLACE  
 MORRISVILLE, PA  
 US 19067  
 Contact: TODD EVANS

Certificate L2367  
 Received : 25 Jun 2024  
 Tested : 28 Jun 2024  
 Diagnosed : 28 Jun 2024 - Wes Davis  
 To discuss this sample report, contact Customer Service at 1-800-237-1369.  
 \* - 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)